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Educational Achievement, Engagement, and Persistence in Choctaw Nation: A Study of the Success Through Academic Recognition Program

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Educational Achievement, Engagement, and Persistence in Choctaw Nation: A Study of the Success Through Academic Recognition Program

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Abstract

The Choctaw Nation of Oklahoma has developed a unique initiative to support academic achievement within their tribal territory. The Success Through Academic Recognition (STAR) program is an example of an Indigenously-developed approach to supporting students from grades 2-12, with the hope of promoting achievement, persistence, and engagement. To study the STAR program, a mixed-methods approach was employed to first analyze quantitative demographic and performance data collected from a cohort of high school students from 2014 to 2018. Next, phenomenological interviews were conducted within the same cohort, to describe the lived experiences of STAR students within the Choctaw community. The database portion of this project adds to the existing literature by exploring a previously unresearched academic incentive program, which was wholly developed by and for Native peoples. The interview component of this research provides insight for school psychologists regarding student perceptions of STAR as a Choctaw-developed initiative for educational success, thereby shedding light on the critical components of community and culture which form the foundations for our work with indigenous populations.

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Preface

This research has roots in my childhood experiences within the Choctaw culture of Southeastern Oklahoma. In my 7th-grade year, my family experienced an unexpected move to Choctaw territory, known also as the city of Red Oak, Oklahoma. From my perspective, it was perhaps the tiniest of tiny towns, with a population of roughly 500 people. We moved in with my grandparents, with no clear indication of how long this arrangement would last for us. Things were unsettled in my home life, with significant uncertainty as to finances, along with the constant prospect of home insecurity. As a perfect example of the odd ways in which humans handle chaos, "normal life" was expected to continue as much as possible. So, under this guise of normalcy, I attended school in Red Oak in a single K-12 building, a concept that seemed impossible to me at the time. School was an outlet and an escape for me, and I was determined to do well academically, as I had decided that good grades would lead to a better future for myself and for my family.

As time passed, school did prove to be the platform for my future success. Yet, I have never forgotten those days in Red Oak in a Choctaw-built home, where three generations of a family came together in times of need. For me, family, high expectations, and love were the motivators. Others may have different stories of hope to tell, and it is my wish to find a common theme for us among the narratives of perseverance, even in light of difficult circumstances.

Chapter One: Introduction

This chapter explores the academic pathway for Native American students. Educational statistics of successful high school graduation and post-secondary enrollment are listed, with the goal of elucidating the need for Indigenously-developed intervention programs. Next, the Success Through Academic Recognition (STAR) program of the Choctaw Nation of Oklahoma is introduced. An academic incentive program created by, and exclusively for, Choctaw Nation members, STAR exists as an important yet previously unstudied program that supports high educational achievement and engagement for Choctaw students, and which exists as a model for other Indigenous Nations. Further, the history of Choctaw education is explored within the lens of educational persistence and self-determined programming. Theory as it relates to the STAR program is reviewed, and key terms are introduced for reference.

The High School to College Pipeline

This section will introduce multiple educational statistics that are relevant to this research. However, it is imperative that we view such statistics with an eye toward their context and meaning. Specifically, without question, Native students have experienced barriers and challenges in their ability to access and thrive within Westernized academic systems. As a result, we must view any quantitative perspectives of Indigenous students with an understanding of the systemic inequities that have produced these outcomes.

First, in today's Western society, the value of an individual's education cannot be overstated. From a U.S. social perspective, educational achievement has proven to be the most important predictor of an individual's future health and well-being (American Public Health Association, 2018). In virtually every instance, successful graduation from high school is a prerequisite for most post-secondary settings, and any deviation from the linear K-12 model can often mean decreased opportunities for future degree attainment. Although each ethnic group within the United States experiences its own challenges along the journey to higher education, the rather grim national statistics of Native American graduation rates for high school and college completion are of particular concern. As noted by Musu-Gillette et al. (2017), Native American students between the ages of 16-24 had the highest percentage of high school drop-out rates (e.g., 11%) when compared with students of all other races. Consequently, obtaining a high school credential of any kind becomes less likely for Native American students, as less than 82% of all Native students between the ages of 18-24 attain high school graduation status. Thus, the prospect of collegiate enrollment and success, whether defined as immediate matriculation into post-secondary environments or future degree completion, are immediately thrown into question for Native American students.

Educational Statistics

This research has origins in the educational landscape at the advent of the 21st century. During this period, while high school completion rates were trending upwards for all races as measured by census statistics (Chapman, Laird, Ifill, Kewall-Remani, 2011), Native American students experienced less growth as compared to other ethnic

groups in the journey toward high school and beyond. In addition to a decreased likelihood of obtaining a high school credential, Native American middle schoolers experienced higher rates of absenteeism as compared to all other ethnic groups, which in turn affected their ability to access education on the same level as their non-Native peers (Love & Kallam, 2007). Mirroring this trend, administrators who worked within K-12 schools with a higher density of Native American students reported significant challenges with student absenteeism, tardiness, perceived familial disengagement, and low expectations during the 2006-2007 academic year (National Center for Educational Statistics, 2008).

In contrast, from a post-secondary perspective, enrollment more than doubled for Native American college students between 1976 and 2006 (Devoe & Darling-Church, 2007). While a positive finding, Native Americans still comprised only 1% of overall enrollment in the final year of the survey, highlighting the continuing disparities between ethnic groups within collegiate settings. These statistics again reveal the systemic inequities that underlie these statistics; the uncertain experience of many Native Americans in post-secondary settings is palpable. Hampered by persistent underrepresentation in many careers and higher education venues within the United States, Native American students continue to comprise less than 1% of all college students as recently as 2013 (Ginder & Kelly-Reid, 2013). This statistic is notable for how little things have changed over the years, and gives rise to the question of how to improve recruitment and retention of Native American students for meaningful post-secondary experiences. While attempting to avoid oversimplification of such a complex

issue, one solution may reside within culturally-competent intervention during the K-12 years.

Intervention and Indigenous Initiatives

There has been a concerted effort to improve high school completion rates for American youth throughout the past century. The focus of many intervention programs has centered on grades and student engagement in school, as a way to improve and increase positive outcomes for students. Achievement has long been defined by the attainment of high grades within a merit-based approach, and has been positively correlated with high school graduation (Allensworth & Easton, 2007). School engagement, defined as a measure of attendance, has more recently been explored as a meaningful predictor of attaining a high school credential (Balfanz & Byrnes, 2012; Roby, 2004). The two factors of achievement and engagement are foundational skills for all students who eventually attain graduation status, and as such, have received specific attention from researchers and educators alike.

For Indigenous communities, similar efforts to promote strong grades and consistent attendance in high school are related not only to the goal of graduation, but also to the desire to increase the historically low rates of college enrollment for Native Americans. Research has shown the predictive power of high school grades on future post-secondary success (Hodara & Cox, 2016; Geiser & Santelices, 2007). Consistent attendance has also proven a reliable indicator of higher grades and eventual degree attainment (Credé, Roch, & Kieszczynka, 2010). Taken as a whole, the inference from research heavily suggests that strong student engagement, coupled with high

achievement, are the underpinnings of durable success in both secondary and post-secondary environments.

Considering the improved results of interventions targeting achievement and engagement for other ethnic groups, what interventions may be required to equitably foster and develop similar outcomes for Native American students? Many recent theories have emerged in Native American research, suggesting that culturally relevant and self-developed initiatives are more meaningful and impactful within the Indigenous community. In regard to education, research has shown that incorporating instruction on Native language, culture, and beliefs has resonance for increasing support and inclusion for Native students (Pewewardy, 2002). The reasons for the increased effects of culturally matched solutions are varied, yet some themes are becoming apparent within the research – such as the central concept of giving back to others and ensuring collective wellbeing that are threaded throughout the community-based approach. These holistic themes are among the specific Indigenous priorities that are embedded within effective programs. These themes and theories now have resonance within the educational realm for Native Americans, fueling the development of culturally-competent intervention practices.

Itapela Hosh Nana Yakomichi – Choctaw Nation and Education

Choctaw Nation's history of building pathways to education has implications for culturally informed initiatives for Native Americans in the modern era. Choctaw Nation's emphasis on education, as related to the Western model, is evident in many negotiated treaties with the United States government. One example is found in the Treaty of Dancing Rabbit Creek, signed between the Choctaw and the United States government in

1830 (Crum, 2007). Within this treaty, the Choctaw tribe negotiated a fund to be applied toward the Westernized college education of forty Choctaw youth. Thus, the "Forty Youth Fund" represented an Indigenous model of providing student financial resources within the Westernized education system. Although long delayed, the "Forty Youth Fund" resulted in a group of Choctaw students enrolling in Delaware College in 1848. This grouping model, known as *Itapela Hosh Nana Yakomichi,* was an important aspect unique to the Choctaw, as it exemplified the "thinking in terms of groupness" (Crum, 2007, p. 53) cultural value of collective success, which differed from the Anglo-American model of sending individuals on their own to college. Further delineating this mindset, Choctaw college graduates later returned to their communities, driven by bonds of kinship and a desire to support the tribe. Additionally, Choctaw Nation held women within great esteem, and promoted the education of men and women equally by the end of the nineteenth century. This esteem has been described as related to Choctaw matrilineage and the reverence of women within Choctaw culture; to this day, Choctaw women and their descendants are identified using their maiden name. Thus, tribal support for education, shared success, and gender equality are part of the framework that still thrives within the Choctaw identity.

The STAR Program

Moving from history to today, the Choctaw Nation created the Success Through Academic Recognition (STAR) program in hopes of improving high school graduation and college enrollment for its students. As noted previously, the literature has shown that high achievement and consistent attendance are strong predictors of high school and

collegiate success. STAR incorporates this Western research within a Nation-specific support model for its students, echoing the historical Choctaw approach.

The origins of the STAR program harken back to the educational statistics of 2006-2007 referenced above. Interpreting and adapting a model developed by the Chickasaw Tribe of Oklahoma, Chief Gregory Pyle created the STAR program in 2007, which has evolved over the past decade into an important piece of Choctaw Nation's support for educational achievement and engagement for students in grades 2-12. As a unique incentive program for Choctaw members, STAR provides reward opportunities each academic year for high achievement and engagement, measured at the end of each semester as $25 in gift cards for all A's, $25 for perfect attendance, and $10 for a mix of A's and B's. In addition to monetary incentives, all awarded students are presented with a certificate of recognition to honor their academic achievements, which is signed by the Chief. STAR initially began as a program solely within the 10.5 counties of the Choctaw Nation; today, over 19,000 students are enrolled in STAR worldwide (STAR Program, n.d.).

The STAR program exists as a unique blend of motivation and reinforcement. From an external perspective, the monetized awards are presented to students as an incentive for high achievement or engagement. The internal award results from a sense of pride and validation from the certificate, which affirms the Nation's support and acknowledgement for the students' efforts. Both reinforce STAR's stated goals of encouraging achievement, developing a strong work ethic, and fostering a value for attendance, all in hopes of promoting graduation and post-secondary education.

Motivation and Reinforcement

STAR's application of motivation and reinforcement brings two concepts into focus. First, as noted previously, the STAR program incorporates incentives and behavioral reinforcement within its award model. From an intrinsic perspective, the STAR certificate taps into tribal identity and personal contribution. This in turn reinforces a value for hard work and achievement, through means of community acknowledgement and Choctaw esteem.

Second, tribal financial support for post-secondary education has emerged as a significant source of funding for Native American students. As both a graduate and doctoral student, I have directly benefited from such support, which was a welcome respite from the increasing burden of student loans. However, no research exists on high school programs as a possible venue for college savings for Indigenous students, even as statistics show that Native American students are at disproportionately higher risk of growing up in low-income or poverty conditions (Koball & Jiang, 2018). It is concerning that our college system in the United States is rapidly becoming unaffordable for students outside of a narrow socioeconomic band. An interesting offshoot of this research has focused on how even a modest amount of financial support can increase a lower-income student's chances of college enrollment and degree attainment. Going further with this funding-as-pathway narrative, monetary awards obtained in high school within a program such as STAR could encourage not only high achievement, but also future college-going for Native American students.

As related to Choctaw Nation, an analysis of the STAR program is a necessary step toward understanding the culturally unique factors which support educational persistence for Choctaw students. These factors are operationally defined by the individual, with cultural value systems weighing heavily in the definition. It is certainly a worthwhile endeavor to analyze incentive programs such as STAR through a literal lens of grades and attendance data. However, these exist as merely a few pieces of the puzzle. Issues of socioeconomic status, culture, and equity are also important considerations for Indigenous students throughout their academic career. For the STAR Choctaw students who move forward in light of these challenges, this research will attempt to illuminate the motivations within their respective educational journeys.

Research Statement and Query

As noted in previous research, Native Americans are at increased risk of academic difficulty and high school dropout, and are less likely to enroll, or to remain enrolled, in higher education (Faircloth & Tippiconnic, 2010). As researched by Martinez (2014), much of the educational disparity appears related to a lack of cultural relevance in the Westernized educational model. To combat the challenges facing many Choctaw students, STAR's stated goals involve promoting attendance, encouraging high achievement, and fostering hope for post-secondary success within a culturally based program. However, there is a need for data that highlights the many ways in which STAR, as a Choctaw-developed initiative, contributes to the educational journey of its students. This data can be obtained from both quantitative and qualitative methods.

First, although the program began in 2007, data collection for STAR solidified in 2015, based on improved reporting from local school districts. From this data, high school students between 2014-2018, who were 2nd graders during the 2007-2008 academic year, represent a longitudinal cohort of Choctaw graduates since the program's inception. Essentially, these students and the STAR program journeyed together. Through an analysis of these students, an opportunity existed to discover the characteristics of Choctaw students who exhibit high achievement, engagement, and persistence in high school. From a quantitative lens, these characteristics may illuminate how a number of social factors impact the likelihood of success in high school and beyond.

However, considering the historical abuses in research which have resulted from a lack of inclusion for Native Americans, research that focuses on an Indigenous model can benefit from qualitative information, to ensure a holistic view. Studies have shown that methods which mix quantitative and qualitative approaches can provide both cross-validation of findings and a more complete picture of the results (Kelle, 2008; Ostlund, 2010). As a result, this study incorporates not only quantitative analyses of STAR data, but also includes information from qualitative interviews conducted directly with STAR students.

This analysis presents a clearer picture of high school students within Choctaw Nation, a topic which has received little coverage in the literature; specifically, this research provides insight into how culture, community, and esteem work together to support and shape education through a Choctaw lens. Second, STAR exists as a potential

model for other sovereign Native American nations; illuminating the Choctaw experience may result in sharing best practice procedures. Third, much of the cultural theories of Native American achievement and persistence in education have focused on college-level students. This study represents an opportunity to employ current theory within the high school arena, as a means to broaden the horizon of theory application. Lastly, and by no means least, Choctaw Nation may gain insight into the outcomes of STAR as a seminal program for the educational success of its youth.

Quantitative Research Questions

Through a partnership with Mizuni K-12 Software, Choctaw Nation has maintained a database of student participants in STAR, with particular emphasis on data collection from 2014 to 2018. A cohort of high school student records from these years was analyzed in light of educational achievement (grade-based awards), engagement (attendance-based awards), and persistence (awards over time) within STAR. To measure these areas, three questions were proposed. The first question explored achievement, and the impact of gender, SES status, and location on the three award types. The second question analyzed educational persistence through award attainment over time. Going further, the third question was proposed to investigate educational attainment, through the potential link between STAR awards and high school graduation rates/post-secondary outcomes. Overall, could we identify which STAR students were more likely to obtain awards, to maintain performance over time, and to complete their high school education?

- Q1: For high school students who obtained awards for grades and attendance, what were the effects of age, gender, SES status, and location within the STAR program?
- Q2: As the cohort continued through high school, did attrition in the incentive program occur, resulting in fewer awards obtained over time?
- Q3: Was STAR award attainment positively related to high school graduation and/or meaningful post-secondary outcomes?

Qualitative Research Questions

The second part of this research aimed to describe the lived experience of Choctaw STAR students within the 2014-2018 cohort sample. Direct interviews with students revealed their perceptions and life events as high schoolers. The interview questions focused on their experience while enrolled in STAR, in addition to perceived factors that either positively or negatively impacted their education. Further, the qualitative analysis explored the impact of Choctaw Nation identity within their educational journey.

Definition of Terms

As a summary note, the definition of terms applicable to this research follow below:

Chahta – Referring to Choctaw peoples, their language, and their history.

Choctaw/Choctaw Nation Identity – for this study, defined as an enrolled member of the Choctaw Nation of Oklahoma, which covers 10.5 counties within Southeastern Oklahoma. Membership entails documentation of blood quantum through a

Certificate of Degree of Indian Blood (CDIB) card, in addition to documented ancestry.

Educational Achievement – Referring to academic achievement within a school setting. This encompassed grades on an A-F scale by semester as measured by the STAR program. High achievement was identified as receiving the top award for all A grades. Mixed achievement was identified as receiving the award for A's and B's.

Educational Attainment – Referring to the completed educational journey of a high school participant who has attained graduation status.

Educational Engagement – Related to reported daily attendance within an individual school calendar. From a current STAR perspective, educational engagement is measured through attendance rates.

Educational Persistence – Defined as consistent award attainment within the STAR program.

Funds of Knowledge – The method of drawing from social context, family, and experiences and applying this "real world" knowledge to education (Velez-Ibanez & Greenberg, 1992).

Iksa/Moiety – In the *Chahta* language and traditional structure, one's clan and a grouping of clans, respectively.

Motivation – The process in which an individual initiates and sustains goal-directed activities (Cook & Artino, 2016), which may include both external and internal elements.

Native American/American Indian – Referring to the Indigenous population of North America. *Native American* will be used as the term of preference; cited research may utilize the term *American Indian*. Both monikers are utilized in reference to Native peoples, tribes, and Indigenous cultures.

Reinforcement – A concept of behaviorism, as defined by Thorndike's (1911) law of effect and by Skinner's (1938) theory of operant conditioning, which indicates that behavior is shaped by reinforcement. Reinforcement can be defined as either "positive" or "negative," by adding or subtracting as a consequence of behavior.

Self-Determination – Self-governance and independent decision-making for Native sovereign Nations (Cornell & Kalt, 2010).

Social Cognitive Theory (SCT) – Bandura's (1986) view of the motivation cycle which includes self-efficacy, modeling, and environmental influence.

Transculturation – Related to the theory of transculturation, which proposes intact identity while successfully navigating and thriving within a different culture (Ortiz, 1947).

Chapter Two: Literature Review and Theoretical Orientation

For this chapter, the available literature is reviewed in the context of STAR's development. First, a genesis narrative and the educational history of the Choctaw people are presented. Next, primary theories which represent both Western and Indigenous models – Transculturation, *Funds of Knowledge,* and Social Cognitive Theory – are defined. Motivation theory is discussed from both Native and Western perspectives, and as related to inherited trauma. Lastly, a review of the available literature is presented as related to the research variables, and cultural variations are discussed.

The *Chahta* People and Origins of STAR

As mentioned in Chapter 1, STAR is an educational program that represents shared best practices between the Chickasaw and Choctaw Nations of today. The Chickasaw Nation initially developed their Honor Club program as a means to promote academic performance, attendance, and enrollment in advanced-level classes (Chickasaw Nation, 2019). Choctaw Chief Gregory Pyle then adapted the Chickasaw program into the STAR model, which focuses on high achievement and attendance for Choctaw students. This intertwining of tribal programs is a modern-day example of the proverbial brotherhood that exists between the two Nations in their genesis/migration narratives. As noted by Galloway (1995), there are multiple genesis stories which delve into the origins of the *Chahta* people, which center upon the sacred *Nanih Waiya* (Mother Mound), the locus or origin point of the Choctaw ancestors (Akers, 2004). One such narrative involves

two brothers who either traveled to, or emerged with, their people from the *Nanih Waiya*. In this story, one group decided to follow a leader called *Chahta*, and the other chose to follow his brother, Chicasa, resulting in the future Choctaw and Chickasaw tribes (Watkins, 2018). The Choctaw and the Chickasaw have a long history of both division and brotherhood; viewed from an origin standpoint, it is perhaps fitting that the STAR program represents a bridge of sharing between the two Nations of today.

History of Choctaw Education

Before exploring the theories associated with STAR, a history of the Choctaw people and their emphasis on education is presented. Various researchers have detailed the cultural and political narrative of the Choctaw peoples, from the oral history of the Choctaw, to autobiographies of Spanish conquistadors and American pioneers, and onward to contemporary Native American academics; this chapter reviews the records that are pertinent to the modern-day culmination of Choctaw Nation's focus on education as a pathway for its future.

Traditional Society

Describing Choctaw culture during the pre-removal era involves a unique blend of documentation, artifacts, oral history, and personal narratives. Long before the Choctaw Nation of Oklahoma was established in 1830, the ancestors of the Choctaw people were originally located in parts of what is now known as the Southeastern United States (Watkins, 2018). As noted by Galloway (1995), the Choctaw were most likely descendants of a group of "mound-building" Mississippian cultures, known as Clovis. Information on the multiple chiefdoms from this era was gleaned from archeological

study of the structures and artifacts left from their civilization. Records suggest that the Choctaw people joined together from a disbanded group of chiefdoms into a cohesive collective during the 16th century, which may account for the multiple origin stories that exist in the oral tradition (Galloway, 1995; O'Brien, 2008).

Between 1500 and 1700, the arrival of Europeans resulted in political and societal upheaval for the Choctaw, from engagement in wars with the Spanish to eventual agricultural and trade relationships with the French and British (Akers, 2004). This era also marks the first Western records of Choctaw people from European authors, albeit from the biased lens of Anglo explorers (Galloway, 1995). In the years leading to the American Revolution, the Choctaw people were seen as powerful trade allies for the French and British colonials, with specific focus in the ill-fated deerskin trade (Usner, 1992). Partly fueled by competing allegiances propagated by the trade system, the Choctaw fought their own Civil War between 1747 and 1750, yet continually strove to adapt and flourish as a culture in the Louisiana and Mississippi regions throughout the 18th century.

From Tribal Tradition to Missionary Schools

As noted by O'Brien (2008), much of what was originally known or accepted by historians regarding Choctaw culture was derived from the writings of an anthropologist, John Swanton, whose 1931 ethnography, *Source Material for the Social and Ceremonial Life of the Choctaw Indians*, existed as one of the sole sources of understanding Choctaw culture for many researchers. However, recent works have delved further into the history of the Choctaw, and have highlighted their traditional emphasis on education for their

people. First, though the beginnings of Western-based education models can be traced to the relationship between the Choctaw and Christian missionaries of the 19th century (Kidwell, 1995), there are glimpses within the missionary narratives which detail the traditional Choctaw method of instructing their youth prior to the arrival of Europeans:

> One unnamed Choctaw man explained to British missionary Adam Hodgson in 1820 that "great changes had taken place among the Indians, even in his time." Previously, children were "collected on the bank of the river" after ritual morning bathing "to learn the manners and customs of their ancestors, and hear the old men recite the traditions of their forefathers." The children "were assembled again, at sunset for the same purpose and were taught to regard as a sacred duty, the transmission to their posterity of the lessons thus acquired." (O'Brien, 2008, p. ix)

Historically, the *Chahta* people were a matriarchal society, with land rights and political influence accorded to the women of the tribe. Though they were not designated as chiefs, as noted by Swanton (1931) and later emphasized by Faiman Silva (1997), "It is said that if the women wanted a certain chief he was almost certain of election." Austin Megli's (2018) summative overview of Choctaw matriarchal culture provides further insight into traditional marital and familial structures, which focused on *iksa* (one's clan) and moiety (one's social group incorporating multiple *iksa):*

> The moiety structure was an essential part of Choctaw culture. For example, members of one moiety supported members of the opposing moiety through the grieving process when a member of their family died. Choctaw men and women had to select their husband or wife from the opposite moiety. Marriage created balance in Choctaw society because it brought the two moieties together […] Being a matrilineal society, when children were born, they inherited their mother's moiety instead of their father's. During games and functions, children participated in the activities of their mother's moiety, while the children's father participated in activities of his own moiety. A child's maternal uncle was responsible for raising and disciplining the children, instead of the father. If their mother died, the children would stay with their mother's family, rather than with their surviving father, so that they could stay within their own moiety while they grew up. (p. 2)

Seen as imperative for both males and females, education was gender-based with girls learning from the women, and boys learning with the men of the tribe. Boys were not directly taught by their fathers; instead, their uncles would instruct them, generally along matrilineal lines, meaning that a nephew would be taught by his maternal uncle. In this way, young Choctaw were taught the necessary skills to hunt, farm, and promote tribal prosperity for centuries.

In contrast to the Choctaw matriarchal approach, the goals of patriarchal Western-based education in the early 19th century focused on the concept of "civilizing" the Indigenous population, consumed by the aptly-termed "missionary impulse" of the Catholic and multiple Protestant faiths (Gardina Pestana, 2013). As an example, Lankford (1984) writes of the missionary Cyrus Kingsbury's work with Choctaw students in the early 1800s:

> As soon as log residence halls were built, schools were opened for native children […] they were given English names, haircuts and clothes. They were to speak English and learn the ways of the white world. The goal was, in essence, for them to become New England Christian school children as quickly as possible. The school was operated on the "Lancastrian Plan," in which advanced students taught those who were behind them on the educational ladder. By this means a few teachers could educate a large number of students. (p. 54)

Though their initial intent was unquestionably overall conversion, the history of missionary educators living among the Choctaw takes on a reciprocal learning approach between the two entities, as noted by Kidwell (2008):

> The Choctaws definitely had their own religious beliefs. And as it turned out, they were not as interested in Christian salvation as they were in education. Christian missionary activity did not replace Native beliefs; primarily, it was turned to the purposes of the Choctaws, and that was to remain the case throughout the history of contact between Christian missionaries and Choctaw people. The early relationship between tribal

> and Christian beliefs was based upon the desire of missionaries to bring salvation to the savages and the desire of Choctaw leaders to learn the ways of white men. (p. 203)

The missionaries were supported in their work by the three influential chiefs of their time, Apuckshunubbee, Pushmataha, and Mushulatubbee, and by the Choctaw people, who were highly invested in creating schools for their people (Kidwell, 1995; Lankford, 1984). Contrary to the lay narrative of missionaries introducing education to "uncivilized" Indigenous natives, the Choctaw were active in determining the fate and direction of their mission schools (Akers, 2004). Education was of high importance for the *Chahta* people, so much so that they provided funding from their treaty annuities, and also ceded tribal lands to the U.S. government in order to build additional schools for their children, as seen in the 1820 *Treaty of Doak's Stand* and the subsequent treaty of 1825.

Post Removal and Contemporary

The 1830 *Treaty of Dancing Rabbit Creek* was previously referenced in relation to the provisions for education which the Choctaw negotiated with the United States. However, this treaty marked the beginning of forced removal for the Choctaw people from their ancestral homeland, which will be explored further in the chapter. Of note, some of the *Chahta* people remained in Mississippi following the treaty negotiations; today, the Mississippi Band and the Jena Band of Choctaw Indians are federally recognized sovereign nations, yet the three distinct groups of *Chahta* people have separate identities that can be traced to the forced removal and treaty of 1830 (Watkins, 2018).

As noted by Morrison (1975), for those who transitioned to the new territory in Oklahoma, the educational focus continued with the tradition of Choctaw-supported missionary schools, which were uprooted to follow the Choctaws to their new land. Morrison's work details how boarding schools and seminaries became the primary method of Westernized school for the Nation in Oklahoma territory. As the Choctaw people attempted to gain greater control of their education system, their Choctaw General Council enacted a law in 1842 that led to the creation of six boarding schools, followed by new schools throughout the mid-1800s (Morrison, 1975; Snyder, 2017). Watkins (2018) further notes that, though the original instructors were missionaries, Choctaw members who had previously received their education gradually became the main instructors for their schools by the 1890s. As observed by Miles (n.d.):

> An initial purpose of the boarding schools was to teach boys agriculture and mechanical arts and to teach girls how to sew and make clothing and to do household chores. Another objective was to instruct children in business skills and in reading, writing, and spelling in the English language. Arithmetic, music, and geography were also taught, and in some schools pupils learned algebra, geometry, U.S. history, chemistry, philosophy, botany, astronomy, painting, drawing, and Latin grammar. Students were generally ten to sixteen years of age. (para. 3)

Choctaw schools ceased operation during the Civil War years, and the Nation faced extreme difficulty following the fall of the Confederacy, whom they had supported during the conflict (Debo, 1961; Kidwell, n.d.; Morrison, 1975; Watkins, 2018). Following this period, the Choctaw resumed efforts to promote boarding and local schools, in addition to promoting higher education for their tribal members (Morrison, 1975).

However, multiple attempts by the U.S. government to further strip lands and rights from the Choctaws and other Native American Nations, though couched in complicated terms of enrolling members and proposing statehood for the territory, were endemic following the end of the Civil War (e.g., the Dawes Severalty Act of 1887.) Next, the Curtis Act of 1898 dissolved tribal sovereignty in many areas, including control of tribal schools which were transferred to federal authority; the echoes of these laws reverberated for decades, as the federal government not only directly appointed chiefs for the Choctaw people, but also unfairly retained access to mineral and land rights until the final quarter of the 20th century. These rights would not be reinstated until the termination-focused laws of the 1950s and 60s, which then led to the next phase of tribal self-determination for Native American sovereign nations (Riggs, 2000).

In 1971, for the first time since Oklahoma statehood was granted in 1907, Choctaw Nation conducted a democratic election of its own chief, ushering in a new era of self-determination. Further legislation, such as the Indian Self-Determination and Education Assistance Act of 1975, extended tribal rights beyond governmental operations and into the realm of education (Strommer & Osborne, 2014). Today, Choctaw Nation works to continue its active involvement in education, as seen through historical funding compacts with the state of Oklahoma which provide additional resources to its students in the K-12 arena. As a sign of progress, recent studies have found that Native American students in Oklahoma have consistently outperformed their peers in other parts of the country in reading and math scores, a trend that has deepened over the past decade (Ninneman, Deaton, & Francis-Begay, 2017). Choctaw Nation students are a crucial part

of this upward movement in achievement, which is the culmination of the Nation's enduring emphasis on education for their youth.

The STAR program represents a current-day continuation of the historical focus on academic success by Choctaw Nation. As noted by Kidwell (1995), the Choctaw originally invited missionaries to their communities in order to learn within and understand the Westernized education model. The Choctaw evidenced adaptation and political skill in this endeavor; their goal was focused on social and political learning to enhance outcomes for their people, rather than on assimilation. Echoing this historical approach, STAR as a program encourages students to pursue success by rewarding grades and attendance in a primarily Anglo educational context; however, this process is determined by and conceptualized in a manner that supports traditional tribal priorities. Thus, STAR represents a contemporary example of Choctaw Nation reimagining a Westernized model to reclaim and to promote traditional Choctaw value for education.

Beyond the elementary years, STAR is part of a continuum of services that supports Choctaw student success from birth to adulthood. This begins with early-childhood parental support, such as the maternal-infant program named *Chahta Vlla Apela* (Tribal Maternal Infant Early Childhood Home Visiting), which aids new mothers to "improve maternal and infant health, parenting skills, and school-readiness of children" (Choctaw Nation, 2020) through home-visit outreach. Moving into the toddler years, Head Start and the Partnership of Summer School Education (POSSE) programs are available to prek students as a means to develop school-readiness skills. Next, STAR promotes achievement and investment during the elementary years, and leads to multiple

career and college services such as scholarships through their Higher Education department and onsite coordinators in tribal colleges within the post-secondary realm. Overall, STAR exists as part of an arc of supportive services that Choctaw Nation has designed to help Choctaw children and families to grow and thrive.

Theoretical Framework

The next section of this chapter introduces theoretical concepts within the literature. Transculturation (Ortiz, 1947) is presented as a framework for cultural adaptation and resilience, Bandura's (1986) Social Cognitive Theory (SCT) is reviewed as a culturally-nuanced Western motivational approach, *Funds of Knowledge (FK)* is introduced from a familial Indigenous lens, and the impact of historical trauma is reviewed.

Transculturation

Many theories applicable to Native American research have highlighted the differences between Western and Indigenous systems as a culture-clash of sorts. In contrast, one social hypothesis, known as transculturation theory, has turned the focus toward positive outcomes through cultural exchange. Originally presented by Ortiz (1947) as a way to reconcile the ethnic history of Cuba, transculturation has developed into a meaningful framework for Native American research (Huffman, 2010). As an alternative to assimilationist theories, transculturation seeks to create a space within another culture, without a loss of one's own cultural attributes. As noted by Huffman (2010), the main tenets of transculturation in its modern formula are a strong sense of

identity, cultural exchange as opportunities for learning, and the eventual utilization of that learning to create a pathway to successfully navigate more than one culture.

Traditional school settings are often devoid of cultural support for Native students, due to a lack of relevant curriculum, scarcity of Native American teachers and teaching practices, and lack of opportunity for identity development (Brayboy, 2005; Castagno & Brayboy, 2008). In relation to Native American students, transculturation provides a way to define the cultural strategies, supports, and motivations that pave the way for achievement within a Western education model that may initially appear hostile to Indigenous peoples. Put simply, from a transculturation lens, Choctaw students succeed in school not in spite of their identity, but rather because they identify as Choctaw. Analyzing the STAR program as a model of transculturation can provide insight into how Choctaw students are thriving in both worlds, Western and *Chahta*, as opposed to living between the two.

From an educational perspective, the majority of transculturation research has been applied to university settings (Huffman, 2011; Huffman, 2013). Thus, an opportunity exists to apply the concepts of cultural identity and social learning within the high school environment. This is especially meaningful, given the rates of school departure among Native American youth. From Tinto's (1975) work on student departure from college, one of the pre-requisites that can affect educational persistence is an individual's prior schooling, known as a "pre-entry" attribute. The STAR program is an example of such a "pre-entry" attribute, and thus can provide some support as a key foundational component of college persistence.

Analyzing the STAR program through transculturation, there is an opportunity to view the traditional Choctaw approach of shaping and adapting Western education as an example of Indigenously-initiated adaptation and resilience. As noted, the *Chahta* people were strong supporters of their mission schools, and firmly advocated for and determined educational outcomes for their youth. We can see the fruition of history in the ways that STAR incorporates only those aspects of Western education that the Nation wishes to promote, such as the concept of achievement and engagement. What is unique to the program is that STAR focuses on enhancing and celebrating those elements that the Nation values, rather than eradicating and replacing tribal priorities.

In addition, using a transcultural lens, STAR can be viewed as an example of tapping into Native identity, to promote the necessary skills to navigate a different culture. The importance of positive identity has been previously researched in regard to Native American students (Powers, 2006; Whitbeck, Hoyt, Stubben, & LaFramboise, 2001). Schweigman, Soto, Wright, and Unger (2011) found that adolescents who participated in cultural practices (e.g., dances, sweat lodges, and powwows) exhibited stronger Native American identity, which was then associated with higher grades for female students. Transculturation thus presents a challenge of working within a non-Native setting such as Western education in order to provide opportunities to enhance identity, celebrate culture, and support Native students as they work toward strong academic outcomes.

As detailed by Huffman (2010), the following criticisms of transculturation include the inherent difficulty in navigating the complex social process of social

information exchange, and the onus that is placed on Indigenous peoples to perform the necessary balancing act. Essentially, Native American students are tasked with maintaining a strong sense of ethnic identity, while navigating a world that could be essentially antithetical to that identity. Additionally, there does not appear to be a clear rationale for "transculturation failure," wherein individuals with strong identities do not thrive within the secondary culture. Although these criticisms provide valid and important considerations, transculturation is a workable theory that aids in the quest to promote achievement, engagement, and persistence for Native students.

Western Motivation Theory – Social Cognitive Theory (SCT)

As noted, STAR is designed to increase educational performance and engagement; to analyze such a program, it is important to consider how motivation shapes academic behavior. Contemporary motivation theory has produced two primary schools of Western thought: need-based and behavior-based. Within the second school, behaviorism explores the connection between stimulus and learned behaviors, such as Thorndike's Law of Effect (1911), Pavlov's theory of classical conditioning (1927), and Skinner's view of operant conditioning (1948, 1953). Skinner elucidated an approach of "behavioral reinforcement," indicating that behavioral responses could be either enhanced or extinguished based on perceived consequences within the environment. Applying this lens to education, there is general consensus among educators that reinforced motivation is a primary factor in educational achievement (Maehr & Sjogren, 1971).

Moving forward with reinforcement and behavioral theory, Albert Bandura (1977) developed the concept of Social Learning Theory, which was renamed Social Cognitive Theory (SCT) in 1986. SCT acknowledges the effects of classical and operant conditioning, while adding mediation between the stimulus and the response, such as environmental learning through observation. SCT presents a view of humans as discerning customers of behavior, in that an individual can consider the rewards and consequences before deciding whether or not to engage in a given behavior. Inherent in Bandura's approach is the modeling and mediation process, where factors such as attention, retention, reproduction, and motivation all effect the likelihood of a given behavioral response.

Widely used as a framework for Native American research (Cooley, 1977; Davis & Reid, 1999; Oliphant & Templeman, 2009; Rinderknecht & Smith, 2004), Bandura's SCT can be applied to the STAR program in the following ways. First, the STAR program provides more than one pathway to achieve a sense of mastery through its multiple award system. Students can foster mastery experiences through either grade attainment or attendance, or a combination of both. Second, self-efficacy as defined by Bandura (1986) states that an individual will engage in a behavior if they believe that they will succeed in doing so; put simply, we do the things that we believe we can do. To support this belief, STAR presents each student with an award certificate, affirming community support and providing encouragement toward academic self-esteem. Third, SCT posits that modeling of a specific behavior will promote replication. STAR provides

reciprocal models of academic success, as students may observe their peers and feel motivated to subsequently engage in the same positive behaviors.

From a Choctaw lens, the historical approach to education was largely modeling-based (Kidwell, 1995), which allowed Choctaw children to practice and learn from their parents and elders. Bandura's SCT may provide a way to honor the traditional Choctaw methods of learning, albeit with a Western approach. Further, Bandura's SCT allows for the moderating effects of the environment, which can heavily influence human behavior; this allows for the consideration of distinct cultures, varied individual factors, and nuance in the discussion of academic success within the STAR program.

As a final note on Western motivation theory, there has been a plethora of studies in Western culture which have analyzed potential effects of external rewards on internal motivators (Atkinson, 1964; Porter & Lawler, 1968; Cameron, Banko, & Pierce, 2001). However, not all theories support the use of external factors to increase motivation. For example, Deci's (1971) original experiments suggested that external rewards – particularly monetary – exerted an inverse influence on intrinsic drive, meaning that one's internal motivation would be diminished in such circumstances.

As a rebuttal, researchers have countered this view, by showing that levels of motivation are positively impacted by rewards, by the achievement of a goal (e.g., Goal-Setting), and from reinforcement resulting from the behavior itself (Bernstein, 1990; Cameron & Pierce, 1994; Latham & Locke, 1991). For a program such as STAR, motivation lies not only in the tangible award, but also in the reinforcement provided by

the acknowledgment of Choctaw Nation. This represents a significant, culturally-relevant intersection between Western models of education and the Nation's traditional values.

Native American Motivation Theory – Family, *Funds of Knowledge*, and Inherited Trauma

Much of the previous section on theory has been devoted to the Western lens of motivation in education. Though current research has yet to fully explore Indigenous theories, there are relevant topics for this study that should be considered. For example, through survey research of Navajo youth, Rindone (1988) found that family was the most frequently cited motivating factor for academic achievement, suggesting that a central family focus could mitigate some of the difficult educational landscape for Native students. In addition, McInerney and Swisher (1995) found that personal traits such as a sense of competence, sense of purpose, and aiming for excellence (e.g., high personal expectations) were the most salient motivational factors in their study of Navajo youth.

Next, the theory of *Funds of Knowledge (FK)* represents the cumulative sum of past and current cultural "bodies of knowledge and skills" that are crucial to an individual's domestic living and well-being (Moll, Amanti, Neff, & Gonzalez, 1992; Velez-Ibanez & Greenberg, 1992). Central to the idea of motivation in learning, Stevens, Andrade, and Page (2016) explored the *FK* framework as related to Native American academic achievement in the STEM field. *FK* posits that learning is shaped by the social context of the individual (Stevens, Andrade, & Page, 2016), meaning that the social interactions, cultural practices, and elements of Native American life for Indigenous students are the basis for their approach to education. The authors found that the

inclusion of family members appeared to be a salient factor in the success of their mentorship program, underscoring the importance of family as motivation for Native American youth.

Finally, a review of motivation research for Native Americans is incomplete without a discussion of historical trauma, and the associated effects of generational inheritance of past abuse. As referenced in Chapter 1, the *Treaty of Dancing Rabbit Creek* was signed on September 27th in the year 1830. Though the educational agreements of the treaty were explored in this research study, it is imperative to consider the treaty in light of its infamous displacement of Choctaw peoples from tribal homelands. Once the treaty was ratified, the Choctaw prepared for forced removal, led by their chief, George Harkins. An excerpt of Chief Harkin's 1832 letter to the American people follows below, in which he detailed the hopes, fears, and the anguish of a Nation unlawfully displaced:

> We as Choctaws rather chose to suffer and be free, than live under the degrading influence of laws, which our voice could not be heard in their formation. Much as the state of Mississippi has wronged us, I cannot find in my heart any other sentiment than an ardent wish for her prosperity and happiness. I could cheerfully hope, that those of another age and generation may not feel the effects of those oppressive measures that have been so illiberally dealt out to us; and that peace and happiness may be their reward. Amid the gloom and horrors of the present separation, we are cheered with a hope that ere long we shall reach our destined land, and that nothing short of the basest acts of treachery will ever be able to wrest it from us, and that we may live free. Although your ancestors won freedom on the field of danger and glory, our ancestors owned it as their birthright, and we have had to purchase it from you as the vilest slaves buy their freedom. (Reprinted by Moquin & Doren, 1995)

The concept of trauma that spans generations has been elucidated by many researchers, and a full exploration is outside the scope of this literature review. As a brief

overview, recent studies have delved into the epigenetic inheritance of trauma that occurs through geopolitical genocide (Bhattacharya, Fontaine, MacCallum, Drover, & Blundell, 2019; Kellerman, 2013; Krippner and Barret, 2019; Lehrner, 2019; Yehuda & Bierer, 2009; Yehuda & Lehrner, 2018). Further, Native American researchers have found a link between childhood trauma and negative health outcomes for Indigenous adolescents and youth, with epigenetic consequences (Brockie, Dana-Sacco, Wallen, Wilcox, & Campbell, 2015; Brockie, Heinzelmann, & Gill, 2013). As discovered by Ehlers, Gizer, Gilder, Ellingson, and Yehuda (2013), thinking about historical losses and related consequences was reported frequently by Native American study participants with high levels of cultural identity, and was associated with anxiety/affective and substance abuse disorders within the sample. It is apparent that prior trauma may not exist as an isolated event, but may evolve into a multi-generational consequence which has profound implications for research into Native American experiences today.

In the context of motivation theory and Indigenous peoples, it is important to consider the impact of removal and geopolitical genocide from a generational standpoint. For the Choctaw students of STAR, their quest for academic success and their continued engagement may be hampered by the effects of inherited trauma. That many succeed and thrive is thus a testament to their resilience, and to the Nation's never-ending pursuit of better outcomes for its people.

Demographic Effects on Educational Outcomes

Moving from theory to practice, the chosen variables of age, gender, SES, and location in this research have been studied previously in regard to educational outcomes,

often in relation to one another. Corresponding to student age, research has shown variable outcomes for factors such as early entry, referral for academic and behavioral concerns, and achievement discrepancies correlated to seasonal date of birth (e.g., relative age effect) (Cobley, McKenna, Baker, & Wattie, 2009; Davis, Trimble, & Vincent, 1980; Tarnowski, Anderson, Drabman, & Kelly, 1990; Jabor, Machtmes, Kungu, Buntat, & Nordin, 2011; Momanyi, Too, & Simiyu, 2015; Navarro, Garcia-Rubio, & Olivares, 2015). Another arm of research suggests that students appear to make larger academic gains early in high school as opposed to later grades (LoGerfo, Nichols, & Reardon, 2006), and additional studies have found that early high school performance is positively correlated to eventual graduation rates (Balfanz, Herzog, & MacIver, 2007). This analysis of the STAR program provides an opportunity to extend this research base, in relation to longitudinal achievement over time for Choctaw students, specifically.

Next, gender has been studied extensively in the context of education. The research on gender differences is indeed voluminous, and a metareview is outside the scope of this paper. However, a few salient studies exemplify the general trend of the research outcomes. For example, a recent meta-analysis by Voyer and Voyer (2014) concluded that there is a distinct “girl advantage” that leads to higher grades for females within all subjects, and that this advantage has remained stable over time. Legewie and DiPrete (2012) further explored the endemic underperformance of boys in school, focusing on higher levels of dropout rates and categories of failure as compared to girls. In their study of differences in achievement from a cohort of students between birth to age 25, Gibb, Ferguson, and Horwood (2008) found that female students tended to

perform better on tests and to obtain higher grades overall as compared to their male peers. Considering the trending evidence of male/female differences in academic outcomes, this research has implications for the potential effect of gender for Choctaw STAR program participants.

Socioeconomic status has also been analyzed within the realm of academic achievement. Many studies have found a link between financial disadvantage and diminished performance in school (Coleman et al., 1966; Considine & Zappala, 2002; Ferguson, Bovaird, & Mueller, 2007; Morgan, Farkas, Hillemeier, & Maczuga, 2009; Sirin, 2005). New research has identified confounding variables that may mitigate some of these effects, such as how SES is defined, parenting/family variables, and also school location. As noted, Rindone (1988) found that SES may not have as significant an impact for Navajo youth, as strong cultural values and family connectivity could have a greater effect on their achievement. However, other researchers have proposed that Native American students may be more deeply impacted by the effects of a culture of poverty, which exacts a heavy toll for their educational prospects and overall wellness (Hermes, 2015; Sarche & Spicer, 2008).

Additionally, SES research is especially important in light of school location, which is a proposed variable in this analysis of the STAR program. In a longitudinal study of Australian youth, Rothman (2003) found that SES status did predict some of the achievement gap for students, but that physical school location played even more of a role in the disparity. Ainley (2003) echoed this finding within the same longitudinal study, discovering that school location was the second most influential factor within an

individual's achievement profile, directly followed by SES status. Linking the concept of physical location to delivery of services, Castagno and Brayboy (2008) discussed the theory of Culturally Responsive Schooling (CRS) as a way to affect the delivery of curriculum in an Indigenous school setting. Thus, where a student attends school may have a greater impact for Native American youth than for their non-minority peers, as related to culturally-sensitive and relevant access to education and educator styles (Hermes, 2007; Hudiburg, Mascher, Sagehorn, & Stidham, 2015; Sparks, 2000).

As a brief note on the concept of engagement, many of the above factors have been found to relate to student attendance in school. Chapter 1 introduced the research on engagement as related to increased risk of lower grades and dropout rates. Studies have validated the findings that increased absences lead to lower academic performance and reduced likelihood of educational attainment (Adelman, 2006; Allensworth & Easton, 2005; Romero & Lee, 2007). Considering that engagement is a relevant factor in achievement and persistence, a goal of this study is to identify how the selected demographic variables may affect STAR award attainment for student attendance, based on a review of the proposed dataset.

Systemic Bias

An evaluation that aims to measure an Indigenous education initiative should consider the systemic biases that have shaped much of the available literature related to Native American history. The effects of assimilationist policies can be seen in many areas, from the threatened loss of tribal languages, the theft of ancient homelands, and on to the limited options available for systemic equity. From an access standpoint, the ability

of Native Americans to equally and fluidly matriculate into higher education at the same level as their non-Native peers has been historically limited by both US initiatives and by the cumulative effects of socio-economics. Further, a discussion of the Native American experience in education cannot fail to address the systemic racism and institutional assimilationist bias present in our ideological systems (Banks, 1979, 1993). Indeed, the very means with which we research and analyze those systems can be intrinsically biased, as well (Scheurich & Young, 1997). Native American Nations are now faced with tackling these systemic inequities, while shaping and supporting their communities through traditional and sacred values. This is the space that the STAR program inhabits: a culturally-grown initiative that outwardly incentivizes achievement with a monetary, extrinsic award, but which inwardly focuses on building a bridge of equity and hope for its people.

In conducting research into Native American educational experiences, some challenges to validity can be seen in the relatively small research populations, coupled with issues of access and identification (Demmert, Grissmer, & Towner, 2006). Historically, the published research has exhibited issues of racial and colonialist themes, and researchers have hypothesized that intensive qualitative study could be a possible mediator to this historical bias (Duda, 1980). In addition to concerns of sampling and systemic bias, it is imperative that research conducted with Native Americans focus on culturally-relevant topics. As noted in their study of mindfulness for minority and Indigenous cultures, Proulx et al. (2018) discussed the ramifications of introducing Western values within an existing ethnic context; instead, the authors promoted the

concept of studying relevant pre-existing cultural aspects that may resonate with Western beliefs, rather than advocating a traditional model of eradication and replacement.

Often, research conducted with Native peoples can become enmeshed in Western beliefs. There is a tragic history of assimilationist education for Native Americans in the Western world, with roots in the boarding-school focus on eradication of language and cultural values (Gregg, 2018). As noted by Freng, Freng, and Moore (2006), prior theories such as assimilationist models placed the emphasis on integrating Native Americans into the dominant culture; in contrast, newer models which focus on qualitative family-school-community partnerships as a transmission of culture and language represent a better pathway for analyzing Native Americans in education. Considering the history of Native Americans since colonization, this research aims to give voice to the educational journey of Choctaw youth, who are embodying resilience within a Western paradigm of education.

Cultural Variations

As a final note on literature and theory, Indigenous viewpoints may relate to yet diverge from Western culture in multiple respects. Although theory coupled with elements of family and community can provide a sufficient framework for studying the STAR program, it is important to thoughtfully consider the conversation between Native and Western views of motivation in light of cultural competence. Cultural competence, as defined by the National Education Association (NEA), pertains to understanding individual perspectives and identifying variations between cultures, while building upon commonalities ("Why Cultural Competence?," n.d.). A method of culturally-competent

dialogue can be found in Willie Ermine's (2007) work regarding the First Peoples of Canada, which introduced the concept of an "ethical space," where disparate cultures can acknowledge their differences while exploring common themes.

If we are to converse within the ethical space regarding different conceptions of motivation theory, there is a notable intersection which can be acknowledged between Western and Native American beliefs. For example, recent Native theorists have discussed the influence of Canadian Blackfoot philosophy on Maslow's hierarchy and concepts of self-actualization, with agreement that Maslow's work was, at minimum, heavily derivative of Native beliefs (Stone Brown, 2014; Blackstock, 2011). Maslow's paradigm has now been reclaimed within the Native American research community, incorporating the concept of *wellbeing* through the Medicine Wheel holistic, as a way to integrate the concepts of motivation within Native culture (Blackstock, 2011). In essence, Western models of motivation are reshaped into a holistic and interconnected approach (e.g., the goal of well-being) when viewed through the original Indigenous lens.

In the context of the STAR program, success could be most readily defined as the sheer number of obtained awards or high school graduation rates. However, STAR students may not view this as the sole determinant of success in their own educational journey. In consideration, the qualitative themes brought forth from interviews are used to add texture and personal perspective to STAR outcomes. Further, throughout this analysis, definitions of accomplishment should be centered within the concept of "wellbeing" as opposed to oblique references to "success," to facilitate a connection between Native and Western viewpoints.

Chapter Three: Methods

This chapter describes the data collection methodology for the STAR program analysis. Both quantitative and qualitative methods provided insight into the research questions listed in Chapter One. This study was conceived as an explanatory sequential mixed-methods design (Creswell, 2015), with emphasis placed on quantitative data collection as the primary, and on qualitative data as the secondary informative method. First, a discussion of access to the STAR program and contacts within Choctaw Nation are presented. Measures of quantitative variables are defined, along with a procedural and analytical review of the data. Rationale behind participant selection and recruitment is described. Next, the secondary qualitative approach of phenomenology is presented, with sample selection and interview protocol. Lastly, data security and methodological considerations of the analysis are explored.

Mixed Methods Approach

As defined by Creswell (2015), mixed method design blends quantitative (close-ended) and qualitative (open-ended) data collection, which work together to provide a better understanding of the selected topic. Of the three identified mixed methods approaches, this research utilized the explanatory sequential design, which first analyzed quantitative data, followed by qualitative research to inform the results (Creswell, 2015). Creswell's work notes that the justification for such an approach lies in the potential weaknesses of each method separately, such as the inability to tell the individual stories

within quantitative research, and the inability to generalize to a larger population within qualitative means. For this study, the limitation of quantitative data was significant in light of the historical abuses that Native Americans have experienced from prior unethical research, and in consideration of the broken trust that has developed as a result of these systemic violations (Pacheco et al., 2013). Thus, qualitative research is an important element in culturally-competent analysis of Native American topics. To this end, this project aimed to uncover the statistical relevance from a quantitative aspect, paired with individual experiences within a qualitative approach to create a holistic narrative.

Access

This research began with my own tribal affiliation with Choctaw Nation, and it grew out of my desire to study how students thrive in certain contexts. It is clear that my heritage both fueled this project, and also provided me with unique access into the community. My research journey started with an email in December of 2017 to the Director of STAR, Mr. Jason Campbell, in an attempt to connect regarding one of Choctaw Nation's most popular student programs. What followed was a deepening conversation regarding how to best support Choctaw youth in their academic lives. Mr. Campbell indicated that life could be far from easy for Choctaw members, and that STAR exists as a way to promote a better future for the Nation. However, Mr. Campbell reported that STAR had not yet been studied in light of student outcomes, and thus an opportunity to develop a view of Choctaw educational success was born.

Following these initial conversations, additional staff members within Choctaw Nation became involved in the research proposal. Dr. Celia Stall-Meadows and Mr. Todd Hughes, who both work in the research department of Choctaw Nation's IT division, were integral to the process of conceptualizing and designing the structure of the dataset. In conjunction with Mr. Ignacio Ybarra and his brother, Khoji Ybarra, of Mizuni Software Solutions, the reality of analyzing data from within the STAR program began to take shape.

Overview of Participant Selection

A discussion of participant selection starts with the STAR program's requirements and application process. Currently, the two requirements for STAR eligibility are tribal membership within Choctaw Nation and current enrollment in school between grades 2 and 12. Tribal enrollment is based on both documented matrilineal descent, in addition to possession of a Certificate of Degree of Indian Blood (CDIB) card. This means that all STAR participants have demonstrated a level of tribal lineage, indicating Choctaw identity through membership.

For this research, only enrolled Choctaw Nation members were included. During the STAR application process, demographic information such as student birth date, gender, school location, and contact information was collected through the initial online or paper application form. This information formed the basis of demographic independent variable data which was used for the quantitative dataset. The dependent variable of award attainment was then gathered via reporting from schools following each school semester. Of note, many school locations offer an on-site STAR coordinator, who is

responsible for reporting results to the program; other individuals who are enrolled may submit their own documentation in order to verify qualification by semester, yet all must meet the stated award guidelines. For this study, only participants who were consistently enrolled in and submitted documentation for at least three academic years were included. Next, Choctaw Nation utilizes a parental permission form for their research purposes. Only STAR participants whose parents had previously signed this permission form were included in the research sample. Before dissemination to the study PI, all non-essential participant information was de-identified within the quantitative analysis. The format for data transmittal was Excel, for use within SPSS v. 25, Stata v.16, and NVivo v.16.

Within the dataset, the focal participants were selected from a high school-aged cohort between 2014 and 2018, due to available data. For this project, additional inclusion/exclusion criteria were implemented. Specifically, students who transferred between schools or who moved into the 10.5 counties of Choctaw tribal territory during the target years were excluded from the cohort. Further information on recruitment and participant selection is discussed within the qualitative methods section.

Definition of Measures

To answer Questions 1 and 2 of the quantitative analysis, the archival dataset was designed to measure the outcomes of *educational achievement, engagement,* and *persistence*. For educational achievement and engagement, STAR's mission is to provide awards based on three categories at the end of each semester, indicating a need for distinct modeling of the data per the three award types. Next, the separate analysis of educational persistence was explored. Educational persistence was measured through

consistent award attainment over time in a separate attrition design, with the variable of time added to visualize trends over the years of the cohort sample.

Of note, Question 3 was intended to focus on the relationship between achievement within the STAR program and educational attainment of a high school degree (e.g., high school graduation), or post-secondary enrollment in college. Though the original intent was to connect participant data to graduation rates and to potential college enrollment, quantitative data on these measures were unavailable. As a result, this question was explored through a qualitative lens, as further explained in the qualitative methods section.

Independent Variables

Within the quantitative analyses, the following independent variables were considered: grade level/year, gender, SES status, and location. First, the independent variable of age was defined as grade level/year in school due to available data, and was defined by traditional labels of "Freshman, Sophomore, Junior, and Senior" during the four cohort years. Second, gender was identified for each student within a "Male/Female" construct, with each individual categorized between the binary options. Third, the variable of SES was defined by Choctaw Nation through Free and Reduced Lunch status for each student, with the identifier of "Economically Disadvantaged" applied to students who met this qualification. Thus, the variable was labeled as either "Eco Dis" or "Non-Eco Dis" within the analyses. Fourth, location was identified through the name of the school attended by the participant and mapped within the 10.5 counties of Choctaw Nation, using the software package BatchGeo (2017).

Dependent Variables

For Question 1, *educational achievement* was measured by the dependent variable of award attainment for grades (e.g., all A's or mix of A's and B's). The measure of *educational engagement* was viewed as award attainment for perfect attendance.

In Question 2, *educational persistence* as a dependent variable was measured by consistent award attainment between the years of the sample, to analyze potential trends within the incentive program. Number of awards per year and per semester were measured against prior/subsequent year and semester attainment, and any statistically-significant differences were analyzed. Due to the available demographic data, the factors of gender, SES, and location were included in the educational persistence analysis.

Dataset

The deidentified dataset was mined by Mizuni cloud hosting, and contained information on 319 individual students from the proposed 2014-2018 high school cohort. The Excel-formatted data included information on the dependent variables of each semester of awards per individual, in addition to the independent variables of school location, SES, gender, and year. Once received, data were transferred and checked for outliers, missing values, and normality using SPSS. Four cases were shown to lack data on socioeconomic status, and were thus excluded from the analysis. Two additional cases contained labels that were redundant for the achievement analysis and were not retained within the data, leaving 313 viable participants within the dataset.

Quantitative Analysis Methods

Question 1 – Educational Achievement and Engagement

As noted, the first research goal of this study was to analyze the selected demographic factors in relation to STAR award attainment during each eligible semester. Given the variable characteristics and the research questions, a multinomial logistic regression was utilized. Use of a multinomial model allowed for predictive analysis of how each independent variable (IV) affected the dependent variable (DV). For this type of regression, the multiple participant demographics (IVs) were modeled with predicted award attainment (DV). The null hypothesis in this design stated that there was no relationship between the independent variables and the dependent variable of award attainment.

Multinomial Coding

Coding for multinomial regression required categorical outcome variables. This necessitated a coding approach based on the number of awards obtained. Initially, this coding took the form of 0-5 options, as some students obtained not only single awards by type, but also dual awards for both grades and for perfect attendance. However, the code was unworkable for the model, due to the limited number of students who obtained awards for attendance. In order to address this limitation and to meet the assumption of exclusive and exhaustive categories, the data were recoded as follows: 0 = No Award, 1 = All A's, 2 = A's and B's. The resulting recodes thus focused on mutually exclusive categories of either high or lower grade attainment, without the addition of attendance as a standalone award.

The participants were given an identifier of Male or Female, with no missing data within the cohort. These were subsequently coded as 0 = Male, 1 = Female for the regression. Within the sample, 129 were identified as male, and 184 as female. Socioeconomic status, defined by Free and Reduced Lunch qualification for students, was coded as "Non-Eco Dis" = 0 and "Eco Dis" = 1 within the analysis, for groups of 113 and 200, respectively. As noted, 4 participants with unknown SES status were deleted; additionally, 2 student records were found to contain duplicate descriptions. As a result, these 6 records were excluded from the dataset for all analyses.

Data coding included a consideration of how to accurately determine a participant's location within the 10.5 counties of Choctaw Nation. Initial coding was proposed as cardinal directions of North, South, East, and West. The software program BatchGeo (2017) was utilized to create a visual map of the participant locations. However, the four regional groups were found to create modeling error within the regression. Instead, utilizing only designations of North and South were found to work well within the model. The BatchGeo map also indicated that regional separation could be accomplished by following designated Oklahoma state highways. This resulted in coding the sample as 155 students in the North, and as 158 students in the South, using the dividing line of State Highway 7 through Highway 144 as markers.

Assumptions – Multinomial

The data were analyzed in light of the 6 assumptions of multinomial regression. It should be noted that the 5th assumption was assumed as met prior to analysis due to the categorical nature of all variables; linearity in a logit model is an assumption that is tested

only with continuous predictors. The 1st and 2nd assumptions were met by the categorical nature of the dependent and independent variables, which were coded at the nominal level. The 3rd assumption involved independence of observations and mutually exclusive categories. The requirement of exhaustive and mutually exclusive categories was met by strict delineation between award types. Next, the requirement of independence between the dependent variable categories was tested through Hausman-McFadden and Seemingly Unrelated Estimation (suest) analysis in Stata software (Hausman & McFadden, 1984; StataCorp, 2017; StataCorp, 2017). The subsequent Hausman-McFadden and suest chi-square results were not significant ($p > .05$,*)* supporting the null hypothesis of independence between variable outcomes.

The 4th assumption was met via linear regression tests for multicollinearity (e.g., high correlations between independent variables). Tests of variance inflation factors (VIF) indicated that multicollinearity was not a concern for each semester within the dataset. As an example, the results of VIF analysis on the Fall semester of 2014-2015 are reported (Location, Tolerance = .992, VIF = 18; Gender, Tolerance = .993, VIF = 18; SES, Tolerance = .992, VIF = 18). Further, the analysis of standard residuals showed that the data contained no outliers (Std. Residual ranged between -3.29 and 3.29), though additional QQ plots were conducted to confirm this outcome.

The 6th assumption represented the most involved process, as it required *K-1* secondary analyses of the dataset within a binary logistic regression. These regressions measured each level of the dependent variable for outliers and/or highly influential cases. Residuals were calculated and plotted to determine acceptable values. Outliers and highly

influential points were checked within the dataset based on studentized residuals that were not to exceed an absolute value of 3.0 and a Cook's Distance value of 1.0 (Cook & Weisberg, 1982; Stevens & Zeaman, 1984). An example of the results is reported for the Fall semester of 2014 – 2015 (Std. Residual Min = -0.994, Residual Max = 1.94; Cook's D < 1). Based on the value parameters, no additional data were targeted for removal from the multinomial analysis.

Assumptions – Binomial

Next, as indicated, separate binary logistic regressions were conducted to analyze the effect of location, gender, and SES status on the award of Perfect Attendance within the dataset. This award was separated from the grades-based award types due to its lower frequency. Coding for the binomial model was straightforward, consisting of "0" for no award, and "1" for achieving an award. Similar to the multinomial modeling, 8 individual analyses were conducted to account for each high school semester.

The assumptions of binary logistic regression are as follows: 1) the dependent variable is measured on a dichotomous scale, 2) either continuous or nominal independent variables are present, 3) the observations are independent and mutually exclusive, 4) no outliers or highly influential points are included, 5) there is no problematic multicollinearity, and 6) linearity is established between any continuous variables and the logit transformation of the dependent outcome. As all variables were categorical in nature and coded in binary form, assumptions 1, 2, 3, and 6 were assumed as met. Next, assumption 4 was tested via residual analysis of studentized residuals and Cook's distance. This analysis identified Case 12 as having a Cook's Distance of > 1.0

for the Spring semester of Junior year; however, this case was retained within the dataset, as the overall regression was not significant with either inclusion or exclusion of this data point. Lastly, assumption 5 was met via VIF analysis to confirm appropriate levels of collinearity.

An additional assumption of binary logistic regression deals with the sample size; specifically, the number of positive events that are observed within the dataset relative to the overall sample. As noted by King and Zeng (2001), regression analysis can be confounded by data that includes "rare events," meaning that the observed positive outcome is less than roughly 5% of the overall sample. The award for attendance presented this challenge, as the total awards obtained for attendance were 28, 12, 19, 14, 18, 9, 17, and 7 for the respective sequence of academic semesters. To account for potential overfitting of the model, a penalized regression, also known as a Firth analysis (Firth, 1993) was conducted in Stata using the package *firthlogit* (Coveney, 2008).

Question 2 – Educational Persistence over Time

To explore the question of attrition over time, a repeated measures ANOVA analyzed the concept of fade-out within the incentive program, measured by the variations between semesters. Assumptions of repeated measures ANOVA are: 1) independence of observations, 2) normality (e.g., following a normal distribution), and 3) sphericity (e.g., variances of all difference scores equal within sampling error in the population). For this analysis, assumption 1 was assumed as met, assumption 2 was met via plots to confirm normal distribution, and assumption 3 was met via Greenhouse-Geiser epsilon above .70.

In this design, the same individuals within the cohort were repeatedly measured over the 4-year period, and the independent variable was time. The within-subjects factor, indicating the repeated measurement, was represented by the count of awards obtained at the end of each semester. The sample of 313 was large enough to include demographic variables as the between-subjects factors, resulting in a (4x2)(x2x2x2) design, or simply (Year x Semester)(x Gender x SES x Location). For this ANOVA, simple effects analyses were performed due to significant three- and two-way interactions, with an alpha of .05. The null hypothesis stated that there was no significant difference between award performance by semester or by year, with the included demographic factors.

Qualitative Analysis Methods

The second part of this study involved a qualitative addition to the quantitative results. As noted previously, qualitative approaches can strengthen and provide context to inferences drawn from a quantitative lens.

Phenomenology

The qualitative portion of this research was based on the concept of phenomenology. Phenomenology as defined by Creswell (2007) involves developing an understanding of the lived experience of a selected phenomenon. Delving further into the specific method, this study utilized Moustakas's (1994) approach of a "transcendental" phenomenological research experience. As described by Creswell (2007), this view of phenomenology can be broken down into concise steps within the data collection process, which was condensed into three phases for the purposes of this study. Phase 1 consisted of affirming that phenomenology was the appropriate method based on the subject

matter; the phenomena of interest was identified; and the philosophical underpinnings of phenomenology were explored while the researcher bracketed out their own biases/assumptions. Phase 2 involved data collection, which consisted of interviews with 7 individuals who had directly experienced the phenomena, in addition to a collection of artifacts from the phenomena (e.g., a STAR award certificate). Phase 3 of this research constituted data analysis, which Creswell (2007) described as a form of "horizontalization" of the interviews. The personal narratives were reviewed for "significant statements" that led to "clusters of meaning" within shared themes (p. 61). Next, contextual descriptions from the interviews were funneled into a descriptive framework, as a way to give structure to the experience.

Phase 1 consisted of affirming the use of phenomenology as the appropriate method. Considering that this research aimed to uncover the lived experience of high school graduates who were enrolled in the program, phenomenology was a reasonable approach. Next, the philosophical understanding that reality is determined by the individual worked well for this analysis, as it allowed for cultural nuance in the description. Researcher bracketing of experience/assumptions was catalogued following each participant interview via journaling, and was further incorporated into the qualitative interpretation.

In Phase 2 of data collection, 7 female participants were interviewed using a semi-structured question design. The broad questions and subquestions focused on their experience while enrolled in the STAR program, and illuminated the factors which affected/influenced that experience. Finally, Phase 3 constituted thematic matching via

horizontalization as detailed above, to describe the essential phenomena of a high-school-aged STAR student through reflection on their experience. The resultant framework was paired with the quantitative analysis, to facilitate a deeper understanding of Choctaw student experience within the STAR program.

Interview Participant Selection and Data Management

Participant selection for the qualitative analysis involved reverse de-identification of the dataset by Choctaw Nation. This means that Choctaw Nation "re-identified" the data in order to recruit participants from within the database sample. Participants were recruited via email invitation, which was initiated by Choctaw Nation. The PI created all wording and information for the invitation. An example is included in Appendices E and F. The invitation email included links to a Qualtrics form, where potential participants reviewed the consent forms, indicated consent, and submitted their contact information for scheduling. This approach ensured that the PI did not obtain personal identifying information on any of the potential interviewees, unless they volunteered for the study. Following receipt of consent, the PI contacted participants within 24 hours to schedule a single interview. These interviews were conducted and recorded via telephone, and then transcribed for analysis in NVivo v.16.

All participants were 18 years of age or older at the time of recruitment. At first, extreme case sampling was used, which resulted in a single volunteer; as a result, total population sampling was initiated, resulting in 6 additional interviews, for 7 interviews in total. As acknowledgement for their participation, all volunteers were entered into a raffle for a $100 gift card to be awarded at the conclusion of the interview portion of the study.

Missing data within the qualitative interviews resulted from interviewees who submitted their information to the PI yet did not respond to subsequent scheduling requests (e.g., 6 out of 13). For these 6 potential participants, data were neither recorded nor analyzed. Next, qualitative data procedures entailed error detection, especially in light of transcribed interviews. For error detection, the recorded phone call was initially transcribed, and then reviewed for accuracy by the researcher, to be uploaded into NVivo software for coding and horizontalization. The development of themes aided in maintaining the accuracy of the coding process.

An important facet of the chosen phenomenological approach involved bracketing out of the examiner's previously-held biases and experiences. This was accomplished through consistent journaling, performed both directly before and directly after the interview had taken place. Finally, the thematic results within the interviews were analyzed for possible alternative explanations. In this way, exclusion of confounding possibilities supported the qualitative conclusions of this study.

Saturation

Generally, the concept of "saturation" (e.g., no new themes emerge from additional interviews) is used as a method to determine if qualitative data collection is sufficient for a given study (Guest, Bunce, & Johnson, 2006; Guest & MacQueen, 2008). However, saturation was less applicable to this study for the following reasons. First, the chosen approach of this design was Phenomenology, which does not ascribe precisely to the notion of saturation that is found in other methods such as Grounded Theory. Thus, the chosen qualitative method focuses on the descriptive richness of data as opposed to a

strict numbers-based approach (Manen, Higgins, & Reit, 2016). As a result, "data sufficiency" was a more appropriate lens for this study design. Further, Guest et al. (2006) and Morse (1994) definitively state that 6 interviews are sufficient to establish meaningful themes and relationships, with Creswell (2006) suggesting 5. From a transcendental "data sufficiency" perspective, the goal was to describe the experience and characteristics of Choctaw Star students from the selected cohort, which can be readily found in the 7 interviews that were obtained (Creswell, 1998; Crouch & McKenzie, 2006; Morse, 1994).

Second, several studies have found that the majority of themes are established in less than 10 interviews, with roughly 80% of all metathemes appearing by 6-8 narratives (Francis et al., 2010; Guest, Bunce, & Johnson, 2006; Namey, Guest, McKenna, & Chen, 2016). Though a general rule of thumb, this suggests that the majority of metathemes were fully included in the 7 completed interviews. In addition, though their locations were varied, the interview participants were found to be homogeneous as they were all female, had graduated from high school, and had moved on to post-secondary settings. Thus, the current interview sample represented a uniquely homogeneous group that allowed for shared meaning. Additional interviews, should they contain demographics that significantly varied from this subset, may have impacted generalizability due to increased differences among the participants.

Third, the dataset represented a small section of the STAR population, due to study design and in consideration of permission and confidentiality. The sampling technique was modified over months of recruitment, moving from extreme case sampling

to total population within the database. Of the 313 potential participants, 13 individuals submitted their information, and 7 completed the interview process. Multiple attempts were made to reach participants by email and by phone. It became clear that attempting to continuously reach out to the small sample would be perceived as intrusive, and perhaps result in little benefit.

Fourth, the study was an unfunded initiative, which had limitations based on available resources. Choctaw Nation provided significant time and expert consultation, and further efforts to obtain additional interview participants may have become a burdensome proposition, with diminishing returns. As Choctaw Nation required an update on approved research at the year mark, which was scheduled to occur in early December of 2019, qualitative data collection was completed in September of 2019, with Choctaw Nation's approval.

Data Security

From a dataset perspective, no personally-identifying information was given to the PI. However, the data were technically owned by Choctaw Nation, and as such, were treated as sensitive information throughout the research process. The data were stored on an encrypted USB drive as a result, and secured within a locked filing cabinet.

As noted, all interviews were conducted in a private setting to ensure confidentiality. After obtaining the interview data, the information was transcribed into written format, participants were given a number identification (e.g., Participant 1, Participant 2, etc.), and the recording was deleted and purged from the files. The written text was stored on an encrypted USB drive, separate from the dataset, within a locked file

cabinet in the PI's secure home office location. At the conclusion of this research and after the required IRB records timelines, all identifiable information was scheduled for purge from the USB drive. Any written records were stored in the locked filing cabinet, marked for shredding at the conclusion of this research.

Procedures of Institutional Review Board (IRB)

This study necessitated review by two separate IRB entities. First, the Choctaw Nation approves all studies and future use of research that is conducted with tribal members or within tribal territory. It exists as only one of four such Indigenous IRB's within the state of Oklahoma. The Choctaw Nation IRB meets once a month to approve all proposals, and specifies timelines for review of subsequent final products. The PI for this study initiated contact with Choctaw Nation, and obtained research approval in December of 2018; their approval letter is included as reference in Appendix H.

Next, the University of Denver approves all research with human subjects through its own dedicated IRB. The submitted and approved DU IRB forms for this project are included in Appendix H below. As a prerequisite to this research, the PI had undergone previous CITI training for human subject research in September of 2016.

As the database represents deidentified information from Choctaw students with signed release forms, informed consent was developed solely for the qualitative portion of this project. Appendix G includes examples of the consent forms for the interviews.

Considerations of Method

The quantitative analysis was dependent upon significant factors that were indeterminant before review of the actual dataset, which have been detailed above. The

major limitation of this study existed in recruitment of qualitative informants. Although it was preferable to obtain additional insight, recruitment was limited to the database sample. Many additional students were excluded in this analysis due the research parameters. As a result, the sample is purposive and limited in scope. Additionally, this research focused on the past experiences of Choctaw students, which entails recollection of their educational journey. Although recent, these recollections present some possibility of altered memories. To mitigate some of this effect, the cohort sample was interviewed roughly 14 months from their high school graduation date.

Chapter Four: Results

This chapter describes the results of the data analysis. In the primary quantitative phase, data from an *N* of 313 participants were analyzed, with quantitative results from both regression and analysis of variance presented. The second phase of qualitative interviews are presented, with data gleaned from 7 participant narratives (i.e., female former STAR students, post-graduation). Thematic shared elements are explored.

Quantitative

Factors Affecting Educational Achievement

Once all assumptions were considered, eight multinomial logistic regression analyses were conducted to investigate the main effects of gender, school location, and socioeconomic status on grades-based award attainment in the STAR program, through the academic years of 2014 through 2018 for the selected high school cohort. Notably, the eight regressions were conducted with a chosen referent category, meaning that the predicted odds of membership in a particular category were measured against the reference group. For all analyses, the likelihood of obtaining "No Award" was chosen as the referent category. For each logit model, likelihood ratio (LR) chi-square statistics were used to discern overall fit for the eight regressions; this statistic was significant for all semesters (e.g., $p < .05$,) indicating rejection of the null hypothesis, and indicating that the model overall was statistically significant. Regression results are presented in chronological order, beginning with the Freshman Fall semester during the academic year

of 2014-2015. Primary parameter estimates are listed below; for complete case processing analyses, please refer to Appendix C.

To summarize the aggregate results, the variable of gender was significant in 8 out of 8 models, and location was significant in 2 out of 8. Most notably, male gender was consistently associated with altered odds of obtaining awards for grade-based achievement. For male students, each regression showed a decreased likelihood of receiving the highest level of award vs. no award per semester. Further, male students were less likely than their female peers to obtain the award for mixed grades in 2 out of the 8 semesters. Lastly, the variable of location was inconsistently a factor in grades-based award attainment, with Northern students more likely to obtain the All A's award in their Freshman Fall semester, yet less likely to obtain the award for mixed A's and B's in Fall of their Junior year.

Freshman Fall. As detailed in Table 1, based on a referent category of receiving "No Award," the factors of location and gender were found to be significant (Location, $\chi 2$ (2, N = 313) = 10.92, p <.01*;* Gender, $\chi 2$ (2, N = 313) = 11, p <.01). In contrast, though SES status exhibited a *p* value below .05 for Non-Economically Disadvantaged students in the All A's group, SES did not have a statistically significant main effect on the overall model as shown by likelihood ratio tests, ($\chi 2$ (2, N = 313) = 5.69, p < .05), and thus was not interpreted. In sum, during the Freshman semester of Fall 2014, the odds of obtaining "All A's" was 2.87 times higher for students in the Northern location (β = 1.055, p <.01*),* yet 0.35 times as likely for male students (β = -1.040, *p*=.002*).*

Table 1.
Logistic Regression of Freshman Fall Semester Award / Location, Gender, and SES

Parameter Estimates

Freshman Fall[a]		B	SE	Wald	df	*p*	Exp(B)	95% CI	
								LL	UL
All A's	Intercept	-1.52	.29	26.86	1	<.001			
	North	1.06	.33	10.34	1	<.001	2.87	1.51	5.47
	Male	-1.04	.34	9.21	1	<.001	.35	.18	.69
	Non-EcoDis	.65	.32	4.06	1	.04	1.92	1.02	3.63
A's and B's	Intercept	-.81	.23	12.58	1	<.001			
	North	.30	.27	1.20	1	.27	1.35	.79	2.30
	Male	-.53	.28	3.60	1	.06	.59	.34	1.02
	Non-EcoDis	.52	.28	3.47	1	.06	1.69	.97	2.92

a. The reference category is: No Award; South, Female, EcoDis.
R^2(Nagelkerke)=.09

Freshman Spring. Results for the Freshman Spring semester indicated significance for gender, $\chi 2$ (2, N = 313) = 14.89, p < .01), but not for Location or SES. The resulting model showed that the odds of obtaining an award for "All A's" was 0.32 times as likely for males (β = -1.139, p < .01). Similarly, the odds of obtaining an award for "A's and B's" was .50 times as likely for male students (β = -.69, p < .01), when compared to the odds of obtaining "No Award."

Table 2.
Logistic Regression of Freshman Spring Semester Award / Location, Gender, and SES

Parameter Estimates

Freshman Spring		B	SE	Wald	Df	*p*	Exp(B)	95% CI	
								LL	UL
All A's	Intercept	-.82	.27	9.26	1	<.001			
	North	.52	.31	2.73	1	.09	1.68	.90	3.11
	Male	-1.13	.33	11.46	1	<.001	.32	.16	.61
	Non-EcoDis	.15	.32	.22	1	.63	1.16	.61	2.19
	Intercept	-.18	.22	.68	1	.40			

A's and B's	North	-.03	.26	.02	1	.86	.96	.57	1.61
	Male	-.69	.26	6.61	1	.01	.50	.29	.84
	Non-EcoDis	.12	.27	.20	1	.65	1.13	.66	1.93

a. The reference category is: No Award; South; Female; EcoDis
R²(Nagelkerke)=.06

Sophomore Fall. Modeling for the Sophomore Fall semester indicated significance for gender, $\chi 2$ (2, N = 313) = 14.40, p < .01. Results indicated that the odds of obtaining the "All A's" award was .32 times as likely for males as opposed to the odds of obtaining "No Award," (β = -1.12, p < .01). Similarly, the odds of obtaining an award for "A's and B"s" was .49 times less likely for male students (β = -.71, p < .01).

Table 3.
Logistic Regression of Sophomore Fall Semester Award / Location, Gender, and SES Parameter Estimates

Sophomore Fall[a]		B	SE	Wald	df	*p*	Exp(B)	95% CI	
								LL	UL
All A's	Intercept	-.61	.27	4.90	1	.02			
	North	.48	.32	2.29	1	.13	1.62	.86	3.03
	Male	-1.12	.33	11.09	1	<.001	.32	.16	.63
	Non EcoDis	.07	.33	.05	1	.82	1.07	.56	2.07
A's and B's	Intercept	.14	.22	.40	1	.52			
	North	-.19	.25	.58	1	.44	.82	.49	1.36
	Male	-.71	.26	7.37	1	<.01	.49	.29	.82
	Non EcoDis	.39	.26	2.16	1	.14	1.48	.87	2.51

a. The reference category is: No Award; South, Female, EcoDis.
R²(Nagelkerke)=.07

Sophomore Spring. Modeling for the Sophomore Spring semester indicated significance for gender, $\chi 2$ (2, N = 313) = 18.12, *p* <.001. The results indicated that the odds of a male student obtaining "All A's" as opposed to "No Award" were .26 times as

likely (β = -1.33, p < .01); however, there was no significant effect on the odds of obtaining A's and B's.

Table 4.
Logistic Regression of Sophomore Spring Semester Award / Location, Gender, and SES

Parameter Estimates

Sophomore Spring		B	SE	Wald	df	*p*	Exp(B)	95% CI	
								LL	UL
All A's	Intercept	-.37	.25	2.18	1	.14			
	North	.33	.30	1.18	1	.28	1.38	.77	2.49
	Male	-1.33	.33	16.19	1	<.01	.26	.14	.51
	Non-EcoDis	-.08	.31	.07	1	.79	.92	.50	1.70
A's and B's	Intercept	-.17	.23	.54	1	.46			
	North	-.20	.27	.58	1	.45	.82	.48	1.38
	Male	-.45	.27	2.81	1	.09	.64	.38	1.08
	Non-EcoDis	.11	.28	.16	1	.69	1.12	.65	1.92

a. The reference category is: No Award; South; Female; EcoDis
R^2(Nagelkerke)=.07

Junior Fall. The modeling for Fall semester of Junior year resulted in significance for the factors of gender, $\chi 2$ (2, N = 313) = 15.28, p <.01 and location , $\chi 2$ (2, N = 313) = 8.55, p < .014. Results showed that the odds for males to obtain the award for "All A's" were .33 times as likely, (β = -1.1, p < .01). Further, the odds of obtaining the "A's and B's" award was reduced by .575 times likelihood for students located in the North (β = -.55, p < .038).

Table 5.
Logistic Regression of Junior Fall Semester Award / Location, Gender, and SES

Parameter Estimates

Junior Fall[a]		B	SE	Wald	df	*p*	Exp(B)	95% CI	
								LL	UL
All A's	Intercept	-.60	.26	5.45	1	.02			
	North	.36	.31	1.37	1	.24	1.43	.79	2.60

	Male	-1.10	.34	10.52	1	<.001	.33	.17	.65
	Non EcoDis	.09	.32	.08	1	.78	1.09	.58	2.05
A's and B's	Intercept	-.33	.23	2.06	1	.15			
	North	-.55	.27	4.31	1	.04	.58	.34	.97
	Male	.17	.26	.40	1	.53	1.18	.70	1.98
	Non EcoDis	.48	.27	3.11	1	.08	1.61	.95	2.75

a. The reference category is: No Award; South; Female; EcoDis
R^2(Nagelkerke)=.08

Junior Spring. Modeling for the Spring semester of Junior year indicated significance for gender, $\chi 2$ (2, N = 313) = 21.54, p < .01. Males were .256 times as likely to obtain the "All A's" award as opposed to "No Award" (β = -1.36, p < .01). The factors of location and SES were not found significant for this semester.

Table 6.
Logistic Regression of Junior Spring Semester Award / Location, Gender, and SES

Parameter Estimates

Junior Spring[a]		B	SE	Wald	df	*p*	Exp(B)	95% CI	
								LL	UL
All A's	Intercept	-.09	.24	.13	1	.72			
	North	.22	.29	.56	1	.45	1.24	.70	2.20
	Male	-1.36	.33	17.14	1	<.01	.26	.13	.49
	Non-EcoDis	-.38	.31	1.47	1	.22	.69	.38	1.26
A's and B's	Intercept	-.20	.24	.69	1	.41			
	North	-.33	.27	1.47	1	.23	.72	.42	1.22
	Male	-.05	.27	.03	1	.86	.95	.56	1.62
	Non-EcoDis	-.09	.28	.11	1	.75	.91	.53	1.58

a. The reference category is: No Award; South, Female; EcoDis;
R^2(Nagelkerke)=.09

Senior Fall. Modeling for the Fall Semester of Senior year indicated significance for gender, $\chi 2$ (2, N = 313) = 23.98, p < .01. Results demonstrated that males were .294

times as likely to obtaining the award for "All A's" (β = -1.24, p < .01) as opposed to the odds of obtaining "No Award."

Table 7.
Logistic Regression of Senior Fall Semester Award / Location, Gender, and SES

Parameter Estimates

Senior Fall[a]		B	SE	Wald	df	*p*	Exp(B)	95% CI	
								LL	UL
All A's	Intercept	.21	.24	.77	1	.38			
	North	.49	.29	2.89	1	.09	1.64	.93	2.88
	Male	-1.22	.31	15.89	1	<.01	.29	.16	.54
	Non-EcoDis	.07	.30	.06	1	.81	1.08	.60	1.94
A's and B's	Intercept	.02	.25	.00	1	.95			
	North	-.17	.28	.36	1	.55	.84	.49	1.47
	Male	.09	.28	.09	1	.76	1.09	.63	1.89
	Non-EcoDis	.16	.29	.28	1	.59	1.17	.66	2.07

a. The reference category is: No Award; South; Female; EcoDis
R^2(Nagelkerke)=.09

Senior Spring. Modeling for Spring Semester of Senior year indicated significance for gender, $\chi 2$ (2, N = 313) = 19.56, p < .01. Results of the parameter estimates indicated significant odds ratios for location and SES; however, these were not interpreted due to overall non-significant likelihood ratio tests for main effect on the model. Results for gender reveal that males were associated with a .288 decrease in odds of obtaining the award for "All A's" as opposed to the referent category of "No Award."

Table 8.
Logistic Regression of Senior Spring Semester Award / Location, Gender, and SES

Parameter Estimates

Senior Spring		B	SE	Wald	df	*p*	Exp(B)	95% CI	
								LL	UL
All A's	Intercept	-.32	.23	1.89	1	.17			
	North	.63	.28	4.85 65	1	.03	1.87	1.07	3.27

	Male	-1.25	.31	16.37	1	<.01	.29	.16	.53
	Non-EcoDis	.19	.30	.38	1	.54	1.20	.67	2.17
	Intercept	-.72	.25	8.45	1	<.01			
A's and	North	.21	.28	.56	1	.45	1.23	.71	2.13
B's	Male	-.12	.28	.19	1	.66	.89	.51	1.53
	Non-EcoDis	.68	.29	5.61	1	.02	1.97	1.12	3.44

a. The reference category is: No Award; South; Female; EcoDis
R^2(Nagelkerke)=.10

Factors Affecting Educational Engagement

Perfect attendance was measured in a separate binary logistic regression, using a penalized Firth model as described in the Methods chapter. Based on Firth regression analyses, the overall Wald chi-square statistic was not significant for 7 of the 8 semesters; however, the Fall semester of Junior year 2016-2017 demonstrated significance, $\chi 2$ (3, n = 313) = 7.89, p < .048 (Table 9). Although the predictor of Location was initially found significant, the confidence interval negated this by including 1 within its parameters, (β = 1.23, p < .026, 95% CI [0.15, 2.3]). In sum, the results of the regression did not indicate significant effect for location, gender, or socioeconomic factors on the likelihood of obtaining an award for perfect attendance within the 8 analyses.

Table 9.
Binary Regression – Junior Fall Semester / Perfect Attendance (n=313)

Junior Fall	*B*	*S.E.*	*z*	*p*	95% CI UL LL
Location	1.23	.55	2.22	0.02	0.14 – 2.32
Gender	-0.73	.48	-1.51	0.13	-1.67 – 0.21
EcoDis	0.61	0.55	1.10	0.26	-0.47 – 1.71
_cons	-4.76	1.07	-4.44	<.01	-6.86 – -2.66

Note: Wald $\chi^2(3) = 7.89$; Prob > $\chi^2 = 0.0484$; Penalized log likelihood = -60.758944

Factors Affecting Educational Persistence

To assess the significance of attrition within the STAR program, a (4x2)(x2x2x2) factorial repeated measures ANOVA was conducted to analyze student award attainment over the 4 years x 2 semesters with the factors of location, gender, and socioeconomic status. Coding involved counts of awards, of which a student could obtain up to 2 awards per semester and up to 4 awards per academic year (e.g., both grade-based and attendance-based awards.) In each table, significant interactions and main effects are listed. For complete tables, please refer to Appendix C.

Statistically significant main effects (Table 10) were found for Year [$F($2.92, 891.72) = 6.75, p < .001, partial η^2 = .02], Semester [$F($1, 904) = 14.94, p < .001, partial η^2 = .05], and Gender [$F($1, 305) = 10.75, p < .001, partial η^2 = .05],. Statistically significant two-way interactions were found for Year by Location [$F($2.92, 891.72) = 2.84, p <.04, partial η^2 = .01] and Semester by Gender [$F($1, 305 = 3.89, p <. 049, partial η^2 = .01]. In addition, one statistically significant three-way interaction was found, Location x Gender x SES [F(1,305) = 5.72, p < .017, partial η^2 = .018. As multiple significant interactions were found, simple level analyses were used to interpret the findings. However, the partial η^2 statistic of .01-.017 for interactions indicates a small effect size, and so results should be interpreted accordingly.

Table 10. *Repeated Measures ANOVA – Awards Obtained in Star Program 2014-2018*

Tests of Between-Subjects Effects

Source	Sum of Squares	df	Mean Square	F	*p*	Partial η^2
Location	.11	1	.11	.11	.74	<.001
Gender	**10.70**	**1**	**10.70**	**10.75**	**.001**	**.03**
EcoDis	.544	1	.54	.55	.46	.002

Location * Gender	.24	1	.24	.24	.63	.001
Location * EcoDis	.90	1	.90	.91	.34	.003
Gender * EcoDis	.34	1	.34	.34	.56	.001
Location * Gender * EcoDis	**5.67**	**1**	**5.67**	**5.72**	**.017**	**.018**
Error	303.32	305	.99			

Test of Within Subject Effects

Predictor	Sum of Squares	df	Mean Square	F	*p*	Partial η^2
Year	**4.63**	**2.92**	**1.58**	**6.75**	**<.001**	**.02**
Year * Location	**1.95**	**2.92**	**.67**	**2.84**	**.038**	**.01**
Year * Gender	.94	2.92	.32	1.37	.25	.00
Year * EcoDis	.58	2.92	.20	.84	.47	.00
Year * Location * Gender	.06	2.92	.02	.09	.96	.00
Year * Location * EcoDis	.33	2.92	.11	.48	.69	.00
Year * Gender * EcoDis	.23	2.92	.08	.33	.80	.00
Year * Location * Gender * EcoDis	.29	2.92	.10	.42	.74	.00
Error(Year)	209.12	891.72	.23			
Sem	**2.53**	**1**	**2.53**	**14.94**	**<.001**	**.05**
Sem * Location	.18	1	.18	1.05	.31	.00
Sem * Gender	**.66**	**1**	**.66**	**3.89**	**.049**	**.01**
Sem * EcoDis	.44	1	.44	2.57	.11	.01
Sem * Location * Gender	.24	1	.24	1.42	.23	.00
Sem * Location * EcoDis	.00	1	.00	.01	.94	.00
Sem * Gender * EcoDis	.04	1	.04	.25	.61	.00
Sem * Location * Gender * EcoDis	.02	1	.02	.13	.72	.00
Error(Sem)	51.67	305.00	.17			
Year * Sem	.99	2.97	.33	1.97	.12	.01
Year * Sem * Location	.80	2.97	.27	1.59	.19	.01
Year * Sem * Gender	.21	2.97	.07	.42	.73	.00
Year * Sem * EcoDis	.87	2.97	.29	1.73	.16	.01
Year * Sem * Location * Gender	.35	2.97	.12	.69	.55	.00
Year * Sem * Location * EcoDis	.56	2.97	.19	1.11	.34	.00
Year * Sem * Gender * EcoDis	.11	2.97	.04	.22	.88	.00
Year * Sem * Location * Gender * EcoDis	.93	2.97	.32	1.86	.14	.01
Error(Year*Sem)	153.27	904.77	.169			

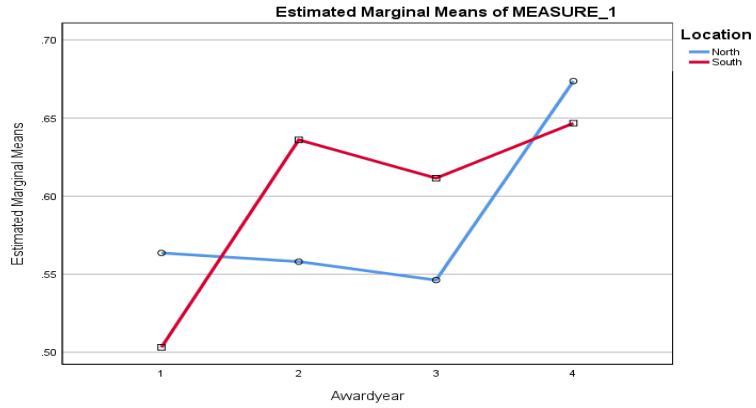

Figure 1 *Profile plot of awards by year and by location (years 1-4)*

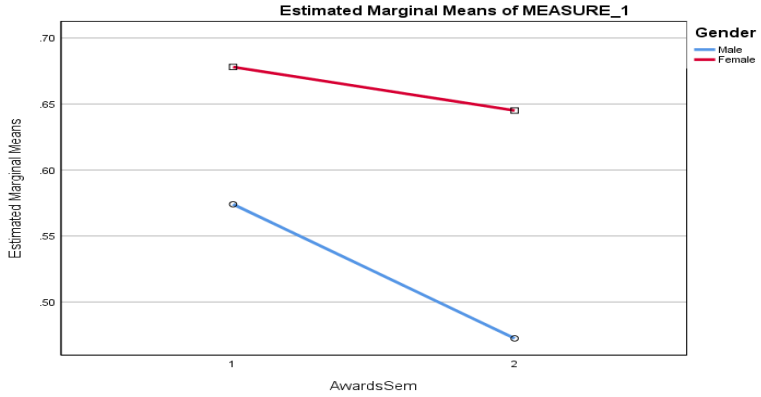

Figure 2.1 *Profile plot of both genders by overall average of awards per semester (Fall – 1, Spring – 2).*

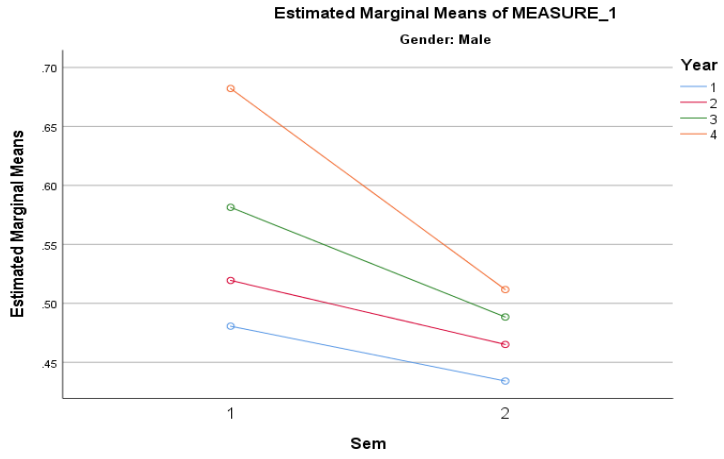

Figure 2.2 *Profile plot of male gender by semester*

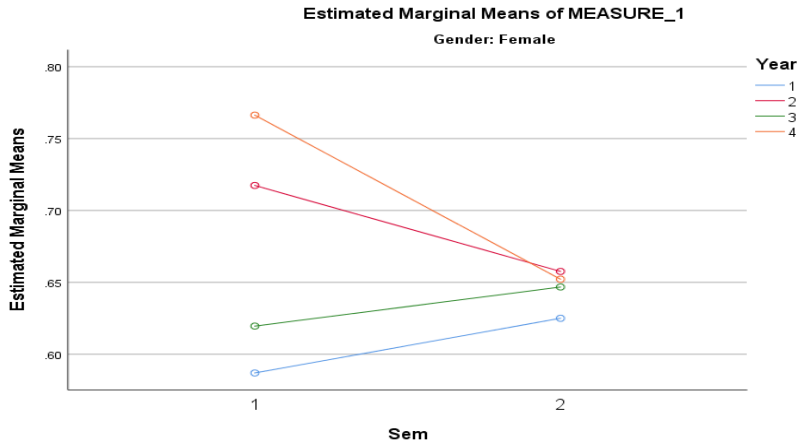

Figure 2.3 *Profile plot of female gender by semester*

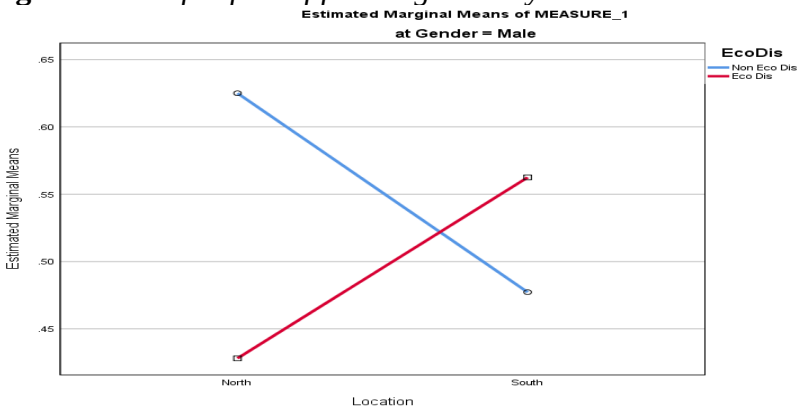

Figure 3 *Profile Plot of Location, SES, and Male Gender*

Simple effects analyses indicated significance for students in both the North and South locations when comparing performance across award years. Pairwise comparisons showed that students in the North obtained a higher average of awards in their Senior year of high school as compared to their Freshman, Sophomore, and Junior years, [t(154) = -2.4, p <.018; t(154) = -2.8, p < .005; t(154) = -3.29, *p* < .01]. For students in the South, Freshman year represented a statistically significant difference as compared to their Sophomore, Junior, and Senior years, [t(161) = -3.44, *p* < .01; t(161) = -2.80, p <.006; t(161) = -3.43, *p* < .01], with Southern students obtaining their lowest average number of awards during Freshman year as compared to all other years.

Next, the interaction of Semester by Gender is displayed in Figure 1 [$F(1,305) = 3.89$, $p < .049$, partial $\eta^2 = .01$]. Similar to the multinomial regressions, female students obtained a higher mean of awards overall in the aggregate Fall and Spring semesters, as compared to their male peers. However, the partial η^2 of .01 indicates a small effect size. Further simple level analyses revealed significant differences for both genders during their Senior year [$t(128) = 2.98$, $p < .003$; $t(183) = 2.61$, $p < .01$], indicating that male and female students obtained significantly higher levels of awards in the Fall vs. Spring semester of their last year in high school. For further reference, a table of means and t-test results are included in Appendix C.

In an analysis of between-subjects effects, the interaction of Location x Gender x SES status was found significant, with small effect [$F(1, 305) = 5.72$, $p < .017$, partial $\eta^2 = .018$]. As visualized in Figure 2.1 – 2.3, simple effects analysis revealed that economically disadvantaged male students were found to obtain a higher mean of awards if they were located in the South, whereas non-economically disadvantaged male students obtained a greater number of awards if located in the North [$F(1,125) = 5.27, p < .023$]. As a final note on the impact of gender within the ANOVA, female students were found to obtain a higher mean of awards overall each semester as compared to their male peers. Please refer to Appendix C for tables of means and complete analyses.

Quantitative Summary

The results of the quantitative analysis revealed the potential impact of gender, location, and SES status for students within the STAR program, in terms of grade-based award attainment and performance over time, although the selected demographic factors

did not appear to affect perfect attendance awards. This led to questions regarding the motivators that may affect award attainment during the high school years. What were the personal factors that may have played a part in each student's journey? These topics and others were explored in the subsequent qualitative section.

Qualitative

In the second part of my research, first-person narration is used to explain both my qualitative analysis and the subsequent results. As noted, 7 participants were recruited to take part in a recorded phone interview. During Phase 1 of the interviews, 5 broad questions were introduced, with additional questions presented as the conversation unfolded. Each participant was asked the same 5 questions, as follows:

1) Please share with me your experience with the STAR program as a high school student.
2) How did STAR influence your grades and your attendance?
3) What would you identify as factors (family, community, or personal) that may have affected your grades and attendance in high school?
4) What was your experience as a Choctaw Nation tribal member in school?
5) Please tell me about your life now in relation to any school or career activities.

Phase 2 of the qualitative process entailed finding statements of significance within the raw interview data. The interview transcripts were given initial and secondary checks for accuracy, and the identification of significant statements began with a coding structure in NVivo. Each of the 7 interviews was coded for apparent themes, which resulted in four metacategories of codes: education, motivation, questions, and support

structure. Of the four overarching themes, the "questions" metacategory was excluded from interpretation, as it was solely focused on greetings by the PI, direct questions that were asked of the participant, and interview wrap-up. Within the three remaining metacategories, subthematic codes were identified, and significant statements were selected from the raw interviews. Next, repeated or overlapping statements were deleted to distill the universal meaning, as defined by Creswell's (2009) horizontalization technique. From this reduction, the final themes were associated with the quantitative research questions of impactful factors, performance over time, and graduation/post-secondary, as related to the quantitative questions explored in the primary regression/ANOVA analyses.

Based on the available sample, a group of female former STAR participants was interviewed, suggesting that their views provide insight into the gender-based factors of impact. During the interviews, female participants frequently cited similar experiences within their high school academic journeys. As a result, the meta-concepts of Self-Motivation, Support and Service were identified as common elements for female participants, related to award attainment in the STAR program. These themes were not only resonant in the sample's high school years, but were also evident in their college-going experience. This led to the identification of a final theme which focused on the transition to college and post-secondary experience, which was analyzed separately. First, the three shared STAR metathemes of Self-Motivation, Support, and Service are reviewed, followed by the theme of transition to post-secondary settings within the interview sample.

Self-Motivation

In analyzing responses to the interview questions, a theme of personal motivation emerged from the narratives. A Western view of motivation within the individual has been defined through the following personal traits: one's inclination, energy, and drive to learn, work effectively, and achieve to potential (Martin, 2012). As a cultural variation, the term "self-motivation" does not have a direct translation in the *Chahta* language due to its primary construct within a Western paradigm. However, there are specific Choctaw concepts which consider the impact of the individual within a cohesive group. For example, the phrase *achukmvlit akostinichi* translates to "understanding the importance of diligence," especially in regard to exhibiting appropriate behaviors at an individual level. From a Choctaw perspective, there is a responsibility placed upon the individual to meet expectations for the community, which can be applied to the concept of self-motivation within the narratives.

A selection of statements related to personal motivation and *achukmvlit akostinichi* for female students in the face of challenge, and specifically how STAR became a part of that journey, are presented below:

> Participant 1: [STAR] really helped me just to, like, motivate me a little bit, you know, because if I -- say, if I wouldn't have gotten the full amount or I wouldn't have gotten it at all, I would have probably been a little disappointed […] since I've been receiving it, I've always gotten it, and I've always gotten the same thing, so I set pretty high expectations for myself still to this day. So, I would be

pretty disappointed if I let myself down in that area, and it would probably make me try a little harder, if I didn't achieve my goals of what I wanted.

Participant 1's interview revealed not only the inclination to learn and achieve to highest potential, but also the concepts of goal-setting and self-efficacy based upon previous performance.

Though many participants were driven to perform at a high level, the motivations described by the participants were not solely based on achieving a positive reinforcer. For example, many participants discussed avoidant motivations in conjunction with high aspirations of self. This included elements such as personal fear of failure:

Participant 2: I just don't like to do bad, so I don't want to have lower grades because I feel, like, for me, my grades do reflect on how much you know and how smart you are. So, like, I definitely want to have better grades.

Participant 5: I'm definitely -- just because I'm a person who is typically afraid of failure. I definitely strive to do better in any work that I do.

Further, when asked to describe the factors that either helped or hindered their academic performance, some participants verbalized self-motivation through meeting the expectations of others:

Participant 4: Yeah, I was pretty self-motivated too, because I'm just normally driven to do my best, just because I'm a people pleaser, and so I just do.

Though the theme of motivation to avoid a negative consequence was apparent, the participants also discussed positively focused aspects of competition and internal drive, in relation to mastery experiences and comparative view of peers:

> Participant 6: I, personally, like, I'm very competitive, so I like getting A's and, like, if someone else had an A and I didn't, I would just really feel down on myself.

While acknowledging the presence of avoidant-focused motivational approaches, much of the discussion of self-motivation was based on positive reinforcement related to personal growth (e.g., meeting expectations of self and performing at a high level). Personal value for education was also implicit in many of the interviews, pairing high expectations of self with an intrinsic belief in the importance of education. Within this narrative, the specific incentive component of STAR was presented as a motivating factor, which was woven into the personal drive of the female participants:

> Participant 6: Well, you know, there's an incentive behind [STAR], so it's going to make you want to go to class, and also it pushes you to get better grades, you know, that makes you feel good too just getting better grades […] without that incentive being there, like, afterwards, I still wanted to get good grades, you know, because I worked hard to get 'em up to that point.

An additional theme of goal-setting was identified within the motivation structure of the young women of STAR. Setting specific goals has been described as an especially strong motivating factor, with difficult (e.g., "hard") goals equating to higher levels of motivation (Locke & Latham, 2006). Many of the young women of STAR responded with statements of hope and goal-setting, though their journeys were variable. For example, goal-setting was identified by Participant 1 as a life-long factor in her approach to achieving her current career:

> Participant 1: I've known since I was a little girl, I wanted to be an [Career Choice], and so August of 2018, I got accepted into [Career Choice] school and it's a 16-week class. I finished that up in January of 2019, and I took that class also while taking full time college classes, so I got hired on with [A County] as a full-time [Career Choice], and so that's what I'm doing currently right now.

Participant 1's approach resulted in achieving her original goal, established years prior. In contrast, some interviewees reported that their goals may have shifted due to varying success during high school:

> Participant 3: I think [STAR] really influenced my attendance more than my grades. I mean, I showed up to class a whole lot more after I got enrolled in the program […] And, I mean, of course I did try to get my grades up there, but sometimes, that just wasn't gonna happen. So, the last few years of high school, I was actually almost perfect attendance.

In an analysis of the two interviewees, Participant 1 had self-reported a 4.0 GPA throughout high school, whereas Participant 3 indicated greater difficulty with her academics. Despite differences in their grades-based achievement, both participants relied on internal motivation to succeed within the program, suggesting both a resilient yet also fluid approach to goal-setting. This in turn highlights the unique aspect of STAR recognizing attendance as a pathway to success, as it provided the proverbial "window" in the light of a potential closed door for Participant 3. Overall, intrinsic factors such as high expectations of self, resilient yet adaptable goal-setting, meeting expectations of

others, and personal value for education were frequently cited by the young women of STAR as motivational factors during their high school years.

Iksa (Support)

The next metatheme to be identified, Support, represented a constellation of elements in each participants' lives that made up the fabric of their social support networks. From a Western lens, social support has been defined as both formal (e.g., teachers, professionals, and institutions) and informal sources of strength (e.g., parents, peers, and communities) that are external to the individual (Metz, Cech, Babcok, & Smith, 2011). Traditional Choctaw views of family and community can be found within these sources of support, as seen in the *iksa* (literally, one's clan) approach to family networks. Within each STAR participant's *iksa*, the concept of family was readily apparent in their individual narratives:

> Participant 1: You know, my family, they always wanted the best for me. And they always -- they never really push me too hard, push me past my limits, they always stood behind me, and supported me through everything.

Multiple generations and siblings were frequently identified as sources of informal social *iksa* support for the interviewees:

> Participant 2: Yeah, my parents and my grandparents both, and my siblings, also. They always -- they were always just standing behind me and always would support me in everything that I did [. . .] it was really big that you went to school and did really well, and my mom and dad were both open to help me, and always encouraging, and I mean, never discouraging. Like, they never said, "If you don't

go, then we'll be disappointed," or anything, it's just better on you in the long run if you do it.

Parental influence was described in variable terms, as one student indicated that her parent was less of an active participant in her academic journey, though still an influential voice in the process:

> Participant 3: Not really, I mean, I did myself, and my mom was proud of me. Like, I was always like, "I'm gonna do better this year," you know, she was kind of a ... really relaxed parent. But, you know, she gives us three days where we didn't have to go [to school] if we really didn't feel like it. And, you know, I'd always try to go even if I really didn't feel like it. I remember actually I'd go to school sick sometimes if I knew I had something big that day, like a test or a final.

In a way, the stories of *iksa* parental social support can be analyzed through a lens of influence, with familial value for education weighing heavily in the equation. As shown by the disparate experiences of each participant, there appear to be multiple pathways in which a parent can model and reinforce the importance of education.

Many of the interviewees reported modeling from both formal and informal *iksas* as a significant factor in relation to their future college aspirations during their high school years. Intriguingly, most of the participants were first-generation college students, yet felt that their parents had modeled the importance of going to college through different means:

> Participant 7: [My father] was extremely encouraging. I'm actually the first person in my family to attend college, you know, I'm into my second year now,

> and he didn't go to college but he's still very successful. He's a business owner […] and even though he isn't college-educated, he pushed me, you know, to go ahead and get my education, go to college […] So, he really opened up my eyes and let me understand what it's like, how me not doing good in school and not continuing my education will affect me in the long run.

Along with informal parental support, the subtheme of teachers and schools as formal supports became apparent. Some interviewees indicated that their teachers were highly invested in their academic success, which had a positive impact on their grades and attendance:

> Participant 2: Definitely the teachers. They want you to do, like, better. They want you to show up to class so you don't miss anything, 'cause I mean a lot of times it's hard to catch students up if you have a whole class and a whole bunch of students, so they just encourage you to show up to class every day [. . .] And if you don't, they help as much as they can to get you caught up [. . .] I went to a smaller school, so it was super easy for the teachers to help you when you needed. And they were open to helping you.

Teachers were members of a broader institutional *iksa* that motivated many female participants to strive for a high personal standard. Having relevant and direct contact with both informal and formal social supports who valued education were important elements for the female participants, and at times, these worlds overlapped in a literal sense.

In fact, one participant noted the benefit of having a family member working onsite at her school location:

> Participant 7: Well, actually my cousin was the guidance counselor, so she really helped me throughout high school too.

The theme of *iksa* was also related to the variable of location, yet was defined in a different context by each student. For example, one interviewee noted the importance of feeling supported by the greater town-based community during her high school years:

> Participant 1: Our little town, you know, it's super small and everybody knows everybody, and everybody is so supportive for what we do, what the school does, and if somebody needs help with something, they're going to be there as well.

Location within a broader community was defined not only by cities and school settings, yet also by extracurricular activities during the high school years. Many participants referenced after-school clubs or activities directly related to Choctaw Nation as part of their formal support network:

> Participant 5: As a Choctaw Nation Tribal member, I definitely wanted to get a part in the Native American Club. I was actually President for my last year up there, and I definitely wanted just to experience the culture, and get more involved in learning about the past for that.

One participant noted the impact of an extracurricular initiative, specifically focused on homework completion, as a motivating factor in her educational journey:

> Participant 2: Well, there was an after school program, that if you stayed for an hour every day after school they would give you $8 an hour […] And so, that was a big factor too, 'cause I'd get all my homework done in that hour.

Thus, identification with Choctaw Nation, and additional programs at school for Choctaw students, were formal *iksa* elements for strong academic achievement within the sample.

Next, for the young women of STAR, peers were presented as informal *iksa* within their community, yet sometimes with variable influence. When asked to describe motivations for persisting in high school, one participant indicated a desire to escape her challenging social landscape:

> Participant 3: [Really] just my determination to not live there anymore. That really helped. I – not that it was bad, but I didn't like what went on most of the time, so I would put myself out of factors so that nobody else could really hurt me or harm me in my schooling or really my life.

While Participant 3 alluded to difficult life circumstances and a challenging peer environment, other interviewees discussed how peers exerted a positive influence on their grades-based achievement:

> Participant 6: [You] know, but my friends – like, I'd say that I would help them to, like, continue to get good grades, but I also surrounded myself with people that were, like, smart and did their homework, and it helped me if I needed help. And so, I kept myself surrounded by people that cared about school too.

Thus, peer-specific value for education played an influential role within the narratives of female STAR students, as related to informal social support systems.

One of the variables explored in the quantitative research focused on SES status as a potential reason either for or against student performance within the STAR program. Though SES status was not found consistently significant within the modeling, it was

nevertheless a continual touchstone within the personal narratives. The presence of economic hardship is a reality for students who grow up in Choctaw Nation. Within a formal *iksa* framework, STAR as a specific monetary incentive program was identified as a motivator for educational achievement and persistence for these young women:

> Participant 4: Well, I remember getting every semester the little gift cards, and they always kind of made me feel better about myself when I got 'em.

STAR provided a tangible incentive for not only grades but also attendance, as specified by Participant 5:

> Participant 5: I definitely wanted to try harder for the extra money, and I definitely wanted to show up more just so I wouldn't miss anything on any classes.

The monetary awards were identified not only as motivating factors for grades and attendance, yet also as pathways to educational access. Some participants indicated that school supplies were unaffordable for their families during high school:

> Participant 6: Honestly, it was just a very nice program to be in, because it was helpful to get gift cards, because it could help me buy stuff for school, and I felt really acknowledged when I was rewarded for working hard and getting good grades […] I've always been very grateful for, like, the Choctaw Nation. They're very helpful, and I know that several times they've given $100 gift cards for back to school, and I know that for my family that was super helpful, because school supplies are so expensive and there's two of us, me and my little brother. And so, we have to buy so many things when you start school, and it was just – it was like

a stressful time, so when you're given something like that, it's super helpful […] so we were very grateful for that at one point in time when we had to do that.

Participant 6 included another element in her narrative, which was related to additional programs through Choctaw Nation. The Student School and Activity Fund (SSAF) was referenced frequently in the participants' stories. The SSAF, which provides $100 stipends for school supplies to Choctaw Nation students each year, was often intertwined with memories of the STAR program during high school as a critical economic component to equitable school access. Overall, the formal support structure provided by these and other programs through Choctaw Nation were essential financial lifelines for the female participants of STAR.

Iyyi Kowa (Service)

The interviews further revealed a theme of service, which began with inclusion and belonging, and then flowed into a sense of giving back to others within a social responsibility framework. The motivations for this type of service are grounded in the traditional Choctaw approach to philanthropy, which is known as *Iyyi Kowa,* or "Broken Foot" in English. *Iyyi Kowa* relates to helping those who are in need, or those with the proverbial "broken feet" who may require additional supports within the community. In contrast to a self-sufficiency doctrine, this historical Choctaw practice of giving was seen as an integral piece of survival for the *Chahta* people, in which ensuring the wellbeing of one meant insuring the wellbeing of all (Iti Fabvssa, 2013). For the interviewees, their sense of *Iyyi Kowa* began with inclusion and belonging in multiple *iksas*.

First introduced in the *iksa* narratives, the theme of inclusion became apparent in the discussion of school extracurricular activities. Extracurricular involvement was a source of community support which emphasized belonging, and which thus became an important element in the participants' engagement in high school:

> Participant 1: I was a student-athlete, as well, and they were always behind me with that.

Participant 1 referenced her involvement in sports as part of the reason for her 4.0 GPA, and remarked upon the palpable presence of her family, school, and town in relation to her extracurricular pursuits. Another interviewee further explained this view of inclusion as motivation for achieving strong grades, in order to remain eligible for activities while in high school:

> Participant 6: I think our school was really proud about having really good grades, and I know that, you know, there's a stereotypical cool kid in school. Like every single kid that was considered cool had good grades, you know, if you don't have good grades you can't play on your football team, your basketball team, softball or baseball, or golf or whatever you're in, cheerleading […] I think that's what kept a lot of people on our toes and working hard on their grades.

Similar to Participant 6's narrative, belonging was a highly motivating factor for the interviewees. For some, the factors of inclusion went beyond group activities or sports in high school, and encompassed a sense of belonging within the larger Choctaw community:

> Participant 1: Choctaw Nation's always been good to me, and so has my town […] For the Choctaw Nation, you know, they've always helped me with my education, and if I need something they're right there. They've always been so good to help me, and that's what I could do, is just be good to pay them back with my actions and everything.

This element of belonging flowed into a sense of giving back in the form of service, as illustrated by Participant 1. Other participants echoed her dedication to service in Choctaw-specific roles, such as in Participant 5's leadership role in the Choctaw Native American club as a senior in high school, referenced above.

As a factor related to academic success and attendance, health/wellness emerged as a notable part of the reciprocal service narratives. When asked what may have impacted their ability to obtain the perfect attendance award, some participants cited the need to attend to family health concerns:

> Participant 4: Normally, it was just me getting sick a lot or one of my family members that had to take my sisters to the doctor […] I had pretty good grades and stuff, so it wasn't too bad […] every once in a while, I have to go the [Specific Care Provider], the [Specific Care Provider] and all that, 'cause I had troubles with that stuff growing up.
>
> Participant 5: Oh definitely – probably family. I know I have – each year or so we would have a little bit of, just, personal issues in the family. I know I had the death of my grandfather that had me miss a few classes for one week, so yeah, definitely family-related.

For the young women within the sample, it seemed that they were highly focused on academics, yet may have experienced important family or health events which impacted their performance and attendance. The spirit of *Iyyi Kowa* encompasses the wellness needs of students and their extended communities, and it may illuminate the social responsibilities that take precedence over academic concerns for Choctaw STAR students. It is salient that health and wellness are part of the equation for school performance and attendance. From both an accumulative generational trauma lens and from statistics within the Nation, health and wellness of self and extended family may influence the academic journey of Choctaw youth, in a manner that may not equally affect their non-Native peers.

Beyond high school, service to the community remained an important element for many participants in their respective collegiate settings:

> Participant 3: I'm involved in the spirit thing, and the [Specific College Ministry Program], and I'm starting the ministry team this semester, so that's pretty cool.

Faith and service to others took on a broad scope for the female STAR participants, as shown in the following narrative:

> Participant 5: Yes, actually, there's this Choctaw program with the Nation on campus, and it's [Specific Initiative], and I was in it as a Freshman last year, but I got called back to be a [Specific Role] for it based off of certain characteristics or qualities and standards that I met. So, I'm involved with that. So, I'm helping the new incoming Freshman, you know, find their way on campus and everything else, and then also I'm a [Specific Role] which is basically just the first person

> someone's going to see when they come on campus, like a campus tour […] I'm a part of that, also.

For these young women of the STAR program, *Iyyi Kowa* endured into their college settings, and for some, entailed the focus of their future careers. As noted by Participant 1:

> I got hired on with [A County] as a full-time [Career Choice], and so that's what I'm doing currently right now […] I work in [A City in Choctaw Nation], in that area, and our service area we cover – our service area down there is so big, but I love it. I love everything that I do. I love that I can come home every day knowing that I've helped somebody in some way. Patient care is so big to me and so important to me. And so, some patients, they may really have a medical emergency, and some patients may just need someone to talk – need someone to talk to them, but patient care is so important.

When asked to describe their future career goals, 4 of the 7 participants indicated careers in a service capacity: nursing, psychology, paramedic/first responder, and education. All 7 had clear objectives for their college tracks, either in medical/education services or in business programs. This group was highly focused on their future, which also involved either studying within or planning to return to their communities to support other Choctaw tribal members.

College Experience

As evidenced in the discussion of *Iyyi Kowa,* the final question of the qualitative interviews was related to college-going and career experiences. Of the 7 participants

within the sample, 6 had moved on to college settings, with 1 participant completing her college experience as part of a trade program. Many of the participants' stories of their post-secondary experience informed the phenomenological model above. Yet, the college-going process presented an additional theme of successful transition to college and potential barriers within that process, which were explored separately from the motivation analysis.

As I connected with participants during their summer break between Freshman and Sophomore year of college, I was able to gain insight into the lives of the STAR participants after graduation from high school. During the interviews, the young women of STAR provided specific examples of their current work and school living situations. The college-going experience appeared to be a profound, revelatory time for these women, perhaps both exhilarating yet anxiety-provoking all at once, resulting in many conversations of their transition process.

Perhaps the most common theme expressed by the young women of STAR involved adapting to their new college settings. Similar to their high school years, formal and informal community support was yet again essential to building their success in a new domain at college:

> Participant 4: I did, I looked at a lot of colleges in Oklahoma, just because it's cheaper and closer to home, but I really felt like [A College] was really welcoming, and it was just a good place because they had a really good community there. I have a lot of friends.

However, not every college-based transition experience was viewed as entirely positive:

> Participant 3: I didn't – probably didn't know where I wanted to go […] it was more of, I didn't know what to do whenever I got there. I didn't know how to interact with the people who already go here, you know, like with faculty and all these people. I was kind of like a scared cat, but, yeah. But, I feel like it was really lacking on just the information part.

Others focused on the logistical changes that came with attending college, such as living away from home. Some indicated that they were living in dormitories with other students:

> Participant 5: Oh, it's great. The first year I was up there, I got to meet some of my roommates and everything. There hasn't been anything that was bad or anything. I haven't had any bad experiences in my dorm and I just got to meet my roommate for this upcoming year just yesterday, so they all seem very friendly.

Some of the participants used qualifying words such as "different" and "fun" to describe their shift to new settings, and the necessary transition to college life:

> Participant 2: It's different, being away from home, but it's fun, because you get to, like, go out and do more and they have fun activities here on campus for you to do during the week, and it's fun.

A few interviewees were living at home during their first years of college. One participant acknowledged the difficulty in managing the newer aspects of college-life, with additional comments on the "different" aspect of her new environment:

> Participant 7: It's – it's different. It's – and especially, you know, coming home from college, meaning they want to know everything that I'm doing, how it is, and everything, 'cause it's a new experience for them too. So, it's really new and

> exciting, you know. I didn't get any of the stories of what – you know, like, "my mom did this in college," "this is what it was like for her," I didn't get any of that. So really, you know, I'm feeling around for myself. It's different.

Participant 7 indicated that she had a younger sibling at home, and the concept of modeling a pathway to college was evident in her narrative. This modeling was inter-generational, as her father's experience was an initial motivating factor for her, and she was now representing a model of college-going for her younger brother. Her family, like many others in Choctaw Nation, illustrates the *Funds of Knowledge* concept explored in Chapter 2. In the absence of first-hand knowledge of what college might entail, her parents were able to harness their own life experiences in order to promote college-going for her and for her younger brother, leading to a reciprocal and beneficial system. For Participant 7, it was not just her own journey to college for the first time, it was also her family's journey.

Similar to the cohort's high school years, financial considerations were a continued presence in the college setting. As noted by Participant 6, finances were a significant factor in her decision to join collegiate extracurricular activities:

> Participant 6: I am going to school at [A College] now in [A City], and for the past two summers I've done the [Specific Choctaw Program], and I – I literally could not have, like, bought all of the things for my dorm room that I needed if I hadn't have worked that first summer, and so I paid for every single thing that I have in my dorm room with the money that I got through that program.

The narrative of Participant 6 incorporates additional themes in the college-going experience: the challenge of funding, the continued support of Choctaw Nation after high school, and building new communities:

> Participant 6: I would not have been able to do – to, like, afford all of this stuff that I was able to get, because we would have had to pay out of pocket for all of the things that I needed to go to school, which is like so much more than you need in high school, because you're moving somewhere. Like, you have to live in a different place, so you have to buy things for you to live on […] and, yeah, I really feel like if it hadn't have been for Choctaw Nation, I wouldn't have been able to join my sorority, which is like a big deal to me. I really enjoy being in it and it's just – it's just life changing for me. I really – I'm very grateful.

As visualized in Appendix D, change was the most frequently cited aspect of the STAR students' experiences. To measure the commonly occurring language within the data, a visual word cloud was created in NVivo, with phrases and words linked to "changing" identified as the central feature of the narratives. Overall, these stories from the young women of STAR are products of Choctaw Nation's continued support for education, and each exemplifies the spirit of thriving and adapting in the face of challenging circumstances.

In the next chapter, the major outcomes reported across the quantitative and qualitative analyses are discussed in terms of their relevance for the Nation, in addition to their integration with current educational efforts to increase and improve the overall schooling and life success of indigenous peoples.

Chapter Five: Summary

This chapter reflects upon the above quantitative and qualitative results, and ties these findings into theory and implications for practice. Limitations of the study are discussed in relation to future directions for research. Lastly, conclusions and recommendations for future improvement and expansions to the STAR program are presented, building upon insights gained from this study.

Discussion of Findings – Quantitative and Qualitative Review

As a review, the primary quantitative analyses focused on educational achievement, engagement, and persistence. Achievement was defined as grade-based award attainment, engagement was measured via awards for attendance, and persistence was viewed as consistency of awards obtained over time, respectively. In addition, the demographic factors of gender, location, and SES were analyzed to measure their effect upon these indices within the selected high school cohort.

Based on the aggregate results, gender was the most impactful factor within the cohort demographics, yet it is important to note that the effect sizes were small. Multinomial logistic regressions revealed that males were less likely than their female peers to obtain the grade-based award for high achievement in 8 out of 8 semesters during the four consecutive years of high school, and were less likely to obtain the mixed grades award in 2 out of the 8 semesters. This suggests that males may struggle in their academic journeys as compared to their female counterparts, and may continue to

experience factors that decrease their potential for success throughout high school. Next, location was also found significant in 2 of the 8 semesters, suggesting that students from the North exhibited stronger performance at the beginning of high school, yet may experience variable success for grade-based awards in subsequent years. However, these findings should be considered in light of their relatively small effect sizes.

Within the educational engagement analysis, the award for perfect attendance necessitated separate binary logistic modeling, based on what is known as "rare event" sampling. The results of the separate modeling indicated that the demographic variables of gender, location, and SES did not significantly impact the chances of award attainment for attendance. This was a departure from the clear signs of altered odds ratios for males vs. females and for Northern vs. Southern students, in regard to the grades-based awards structure.

The second research question dealt with educational persistence, viewed as consistency of awards obtained in the STAR program. Namely, was there a difference in awards obtained over the semesters and years of the high school cohort? Based on ANOVA analyses, time was a significant component of performance, as students were found to achieve either a lower or higher volume of awards as Freshman and Seniors, respectively. Regarding Senior year, both male and female students experienced more success during their Fall semester, as opposed to Spring semester. Lastly, male students who were socioeconomically disadvantaged obtained more awards if located in the South, whereas the converse was true for non-economically disadvantaged male students in the North. The results suggest that students may experience different motivators at the

start and conclusions of their high school journeys, with variable results by gender and location.

Next, the qualitative portion of the study was focused on documenting the experience of STAR participants within the cohort. Phenomenology was used as a way to distill the essence of the sample narratives, to glean insight into the hopes, motivations, and challenges that each may have endured during their time as STAR students. First, before delving into the qualitative discussion, it is important to reflect on the process of phenomenology as described by Moustakas (1994), and its place in this mixed methods design. Though 5 distinct interview questions were asked of the participants, the goal was to distill their experience as Choctaw STAR students in high school, rather than finding literal solutions or answers to each query. As a result, the STAR narratives represented a constellation of shared experiences, shared motivations, and shared views from the participants' lens, which allowed for interpretation as opposed to resolution.

Overall, 7 interviews were conducted with an all-female sample, who volunteered after receiving email invitations to participate. Of the 7, all of the participants had graduated from high school. Next, 6 had matriculated to traditional college settings, and 1 participant had completed college and trade-based training. Through horizontalization, three shared phenomenological metathemes emerged from their narratives: Self-Motivation, Support (*iksa)*, and Service (*Iyyi Kowa)*. Determination and personal drive were noted as motivating factors, the informal and formal *iksas* of support were outlined, and the *Iyyi Kowa* of the *Chahta* people was revealed in the participants' stories. A final theme related to post-secondary experiences was identified within the narratives, which

detailed the college-going transition. Paired with the quantitative results, a picture emerged of female STAR students who utilized their personal drive, their sources of support, and their embedded cultural practices to thrive in a Westernized educational environment. These themes and their resonance with theory are further explored later in the chapter. Next, the independent variables of Gender, SES, and Location are reviewed in light of these study results, and in context of relevant current research.

Gender

First, the quantitative analyses revealed that gender may exert significant influence on grade-based measures. Female students were consistently more likely to obtain the highest award for STAR performance in high school, indicating a critical difference in academic achievement. This mirrors recent national trends, which reveal that Native women are completing their high school education and enrolling in college at rates that exceed those of Native men (i.e., 60% vs. 40%, respectively) (NCES, 2019).

This gender gap has been observed for other cultures, as well. Autor, Figlio, Karbownik, Roth, and Wasserman (2019) found that minority males were at risk for higher levels of disciplinary problems and lower academic outcomes, in addition to increased risk of high school dropout, as compared to female students of similar economic backgrounds. This finding has been observed in multiple ethnicities and settings, such as in minority and Caucasian students both internationally and within the United States (Marc Jackman & Morrain-Webb, 2019; O'Dea, Lagisz, Jennions, & Nakagawa, 2018; Voyer & Voyer, 2014). Overall, research has shown that gender appears to be a universally impactful factor in school performance.

The perspectives of female students were explored within the qualitative interview process; however, there is a notable absence of male participants. As described, female STAR participants drew from sources of motivation and support, along with reciprocal service. Choctaw male students may also rely on a similar triad, yet they may experience motivations and challenges that have yet to be fully explored in this research. What we do know can be gleaned from current school psychology research, and from statistics within the Nation. From a school psychology lens, Schwery, Hulac, & Schweinle (2016) have shown that gender gaps in achievement may be related to a greater sense of self-efficacy in female students, further underscoring the need to promote esteem and self-belief within the male motivation cycle. Additional insight can be drawn from statistics within the Nation. From census data taken from Choctaw County as recently as 2018, 19% of the population aged 25 and over had prematurely discontinued their high school education, and within that statistic, males were more likely than their female peers to lack a high school diploma or equivalent credential (United States Census, 2018). We also know that failure to complete high school results in diminished employment, decreased lifetime earnings, and increased risk of incarceration for male youth (Belfield & Levins, 2007). Thus, retaining male students in high school remains a pressing need in Choctaw Nation, and may require the concerted efforts of STAR and other similar programs.

SES

SES status was analyzed as a potential factor in STAR award attainment, yet was not found to be significant in the initial regression modeling of grades-based awards.

Prior research by Rindone (1988) has revealed the protective factor of Native family support, which was a compensatory element for Native students who faced economic distress. From a qualitative perspective, the students of STAR frequently referenced economics in relation to affording school supplies and costs. Often, participants would include the STAR program during discussions of other scholarships and funding opportunities that were provided to them, which were at times the only pathway to entering or sustaining their respective college careers.

STAR represents a platform of economic and social support that is part of the cradle to career initiative within Choctaw Nation. Financial barriers are evident in the difficulty that Choctaw Nation faces in sourcing meaningful employment, promoting wellness, and improving the economic opportunities for its tribal members. For the young women of the STAR study, their personal drive, their *iksas*, and their spirit of *Iyyi Kowa* were means to overcoming a challenging financial landscape. Persevering in light of economic hurdles - all while maintaining high achievement and then pursuing viable post-secondary opportunities – is a marker of their and their communities' resiliency. From an improving social and economic equality lens, STAR appears to exist as an important piece of financial wraparound services for Choctaw youth, and may be especially salient for students who are moving forward to college experiences.

The concept of SES has resonance when applied to the gender gap differences referenced above. Research has shown that girls outperform boys in classroom grades as noted, yet this effect appears to be greatest for students within an economically disadvantaged framework (Kingdon, Servin, & Stack, 2016). Researchers have also

introduced the concept that minority students exhibit a greater gender gap in achievement as opposed to their Caucasian peers, based upon the higher prevalence of economic disadvantage among minority populations (Artur et al., 2019). Although SES, as defined by Free and Reduced Lunch status, was not a significant factor in achievement within the selected dataset, it is possible that Choctaw STAR students – males specifically - remain at greater risk for differences in achievement, based on their economic landscape.

Location

Next, the initial view of location began as a strict map-based interpretation of school settings. Based on the sample, Oklahoma highways were used as a template to separate the sample into Northern and Southern districts. The quantitative results suggest that students from the North and South evidenced different outcomes over the four years of high school. This leads us to wonder what could be different for students in one location vs. the other.

Utilizing a statistical approach, current demographics of Choctaw Nation reveal more families living under poverty conditions, with increasing exposure to violent crime and scarce resources for employment (Hall, 2015). Though not explored in this research, additional factors related to technology, geography, and community environment present as possibilities for disparate student performance observed in the analyses.

For example, available technology of rural schools and households is sometimes taken for granted, as there is an expectation that all students have access to the same resources as their metropolitan peers. Statistics suggest that this is far from the case. In the Pew Research Center's national survey of urban and rural technology, rural

households were 12 percentage points less likely than the overall population to have access to high speed internet (Perrin, 2019). Anecdotally, some students in Choctaw Nation must seek out public spaces that provide free internet access, such as the hospital parking lot in Talihina, which has become a library of sorts for students who are attempting to complete their homework for school (Lapowsky, 2017). It is interesting to note that Talihina was placed within the Northern location of the analysis; this suggests that Northern students with access to free high-speed internet may have an advantage over their peers in other areas that may lack connectivity. Though this does not fully explain the totality of student experiences by location in Choctaw Nation, it is troubling that there are few sources of free internet and computing available to all students in Choctaw country. From an infrastructure-as-location perspective, these are the kinds of challenges that limit opportunities for Choctaw Nation's children and their families.

Within the qualitative analyses, location emerged as part of the supportive community which surrounded students during their high school years. Positive encouragement and guidance from teachers and counselors onsite at schools were important elements. However, the issue of staffing within the schools remains as a barrier for many Native American students. Though Native students benefit from Native teachers in their classrooms, less than 1% of teachers nationwide identify as Native American (Teach for America, 2019). Further, roughly half of all schools in the United States do not employ a teacher of color, indicating a potential lack of shared experiences and relevant understanding of their students' backgrounds (National Association of Secondary School Principals, 2019). This is not to suggest that Non-Native teachers are

strictly a detriment for Native students; rather, it is imperative that we train Non-Native teachers on culturally-relevant practices, to increase their credibility and to facilitate trust with Native youth. Yet, culturally-relevant schooling and best practice (Castagno, 2008) must also address the inclusion of Native educators, as a way to solidify modeling, and to reduce systemic bias. For Choctaw Nation, this means encouraging both their students and their Native/Non-Native teachers to enter educational systems with a knowledge of *Chahta* language, history, and traditional values.

The Time Effect

From an attrition and time standpoint, the quantitative analysis revealed changes in regard to sustained student performance in the STAR program. Northern students performed best during their Senior year, whereas Southern students experienced diminished performance in their Freshman year. This suggests potential impact in the students' lives as young adults, yet at vastly different stages of development. Without further data, it is difficult to pinpoint precise reasons for this shift. Rather, it appears to be a phenomena of the beginning and ending years of high school, with perhaps difficulty during transition to high school for Southern students, yet increased motivation as graduation nears for Northern students.

The impact of Freshman year is of particular concern in regard to future high school dropout. In their study of Chicago schools, Allensworth and Easton (2007) found that researchers were able to predict 85% of all students who would eventually drop out of high school, based on Freshman year performance and attendance. Neild (2009) further explored the link between 9th-grade performance and overall high school

completion, suggesting that students who fail to fulfill their 9th-grade coursework disproportionately comprise up to a third of all students who eventually drop out of school. For Choctaw STAR students, Freshman year may similarly represent a critical time in their academic journey, and may require greater levels of support and scrutiny.

In a review of the repeated measures analysis, the question of sample size should be considered. The *N* of the repeated measures was not a factor, as each student remained within the cohort for all four years, and results were analyzed from repeated performance of all students. However, some differences between students may account for fluctuations in performance by year. Though these were not explored, it is possible that local issues including infrastructure, employment, and other civics statistics may account for some of the variations. Additionally, other reasons may be found in the system of report for the awards themselves. At this time, school-based coordinators provide information regarding awards per student to the STAR program. It is possible that variabilities in consistent reporting play a role in the differences found by location over time.

Next, the three theories introduced in previous chapters are applied to the quantitative and qualitative findings of this study.

Integration of Theory and Findings

Transculturation, Bandura's view of motivation and social learning (e.g., SCT), and the importance of drawing from family and social context (e.g., *FK*) were presented from Indigenous and Western research in Chapter 2. These specific theories provided a lens to analyze the elements which promoted academic excellence for students during and beyond their STAR years. These elements will be explored below, as related to theory

and Choctaw cultural characteristics. First, cultural components related to educational achievement are presented in a transculturation framework. Second, the concept of self-motivation and the importance of modeling for Choctaw students is reviewed from an SCT perspective. Third, the role of social learning for the participants of STAR is explored in the *Funds of Knowledge* approach.

Cultural Exchange and Adaptation

As a review, transculturation represents the successful navigation of a disparate culture, through utilization of specific cultural strengths (Huffman, 2011). The young women of the STAR program exemplified transculturation by traversing the bridge between Indigenous ways of knowing and Westernized systems of education. As noted in Chapter 1, the Choctaw people placed importance on studying Western culture for centuries, and have consistently sought ways to provide for their youth as they entered into Anglo-American schools. As observed, the STAR program of today exists as a Choctaw-based initiative that unites Indigenous and Westernized concepts of academics to motivate Choctaw youth. The female participants within the interview sample were found to harness their internal drive, their support networks, and their sense of reciprocal service to meet high standards of achievement. These factors are emblematic of the resilience that Choctaw Nation fosters in women, and are the main factors that drive their strong achievement in the Westernized academic realm.

As a further note on transculturation theory, the interchange of cultures persisted beyond high school for these STAR students, and journeyed with them into their respective college settings. Many of the skill sets that paved the way for success in high

school were evident in the college environment. For example, the women of STAR often spoke of creating new *iksas* at college, and employing the same spirit of *Iyyi Kowa* in their ministry to others. They relied on the support of friends, family and Choctaw Nation to navigate an unfamiliar road, and in turn modeled a pathway for their own communities.

The STAR narratives reveal the continued importance of matriarchal strength within Choctaw Nation. Looking back to history, the Schools Act of 1842 was previously referenced in Chapter 2, which established Choctaw Nation's control of their tribal schools. As noted by Snyder (2017), in addition to affirming tribal control, the Act led to the creation of schools for female students. Traditional tribal reverence for women and their vital role within the Nation is inherent in these policies from hundreds of years ago. Today, the fruition of these policies is evident in the journeys of the young women of STAR, who have created a space within a Westernized model of higher education, disrupting the narrative of deficit-focused national statistics. Their journeys are mirrored in the national trends for Native American women overall. As noted by the National Congress of American Indians (NCAI, 2015), Native American women have increased their leadership presence substantially in education (e.g., a four-fold surge in collegiate and graduate degrees obtained between 1976 and 2006), the professional workplace, and positions in tribal government, at a pace which often exceeds that of their non-Native peers. As shown by their narratives, the Choctaw women of STAR exemplify this return to tribal matriarchal values, which are the wellspring and bedrock for a strong *Chahta okla* (people). This emphasis on empowering women provides more than individual

benefits, in that many of the women of STAR were focused on giving back to their communities through the spirit of Iyyi Kowa. Thus, this shift to traditional matriarchal values, which is evident in the increased well-being for female STAR participants in this study, provides reciprocal benefits for the future of Choctaw Nation as a whole.

As a note on cultural exchange/adaptation and application by gender: though the female Choctaw STAR participants appeared to benefit from transculturation, its application and relevance for Choctaw male youth was not fully explored in this research. It is possible that, as a theoretical challenge, transculturation may too heavily rely on the accepted "soft skills" that are traditionally seen as related to females. It is thus possible that transculturation, which places a heavy onus on the minority individual to successfully navigate the "other" culture (Huffman, 2011), may contain hostile elements toward those who identify as male. This does not imply that Native women have been shielded from discrimination; far from it, as Native women face increased risks of experiencing violence and diminished health/wellness in their lifespan (Stumblingbear-Riddle, Burlew, Gaztambide, Madore, Neville, & Joseph, 2019). Rather, the perception of Native men as "hostile" entities, clearly evident in the Anglo narratives of history, may still persist in society, and can be found even in the realm of K-12 education. For example, a recent study in California found that Native males were at increased risk of suspension at twice that of their non-Native peers, and faced the highest rates of eventual expulsion from school (Sacramento Native American Higher Education Collaborative & Community College Equity Access Lab, 2019). The metaphorical costs of suspension are high: a study by Fabelo et al. (2011) of Texas school children revealed that school

discipline such as suspension increased the risk of grade retention, interaction with the criminal justice system, and failure to complete school. Regarding critical periods during the K-12 years, researchers have also discovered a significant link between out of school suspensions in 9th grade and increased risk of eventual high school dropout (Balfanz, Herzog, & MacIver, 2007). While there are many factors that can contribute to disciplinary action in education, there is an insinuation that Native male youth are still disproportionately and unfairly viewed as disobedient and requiring correction in our public schools, which may lead to devasting consequences for their educational and social development.

Beyond grades and attendance, Native males may start their education journey further behind other students, based simply upon the perception of their minority status, and erroneous public misconceptions that prejudice toward Indigenous peoples no longer exists (Reclaiming Native Truth, 2018). Overall, cultural exchange and adaptation through transculturation may be difficult to fully achieve, based on what Huffman (2011) describes as the frustrating barriers of racism and low expectations of Native Americans across all educational settings.

As a final note on gender and transculturation, systemic factors may affect Native males more acutely, such as the pressure to provide and lead within a framework that negates traditional values. The traditional Choctaw male role was that of the warrior (*tvshka*), hunter, and mentor, based on tutelage from uncles within a matriarchal system. The role of the warrior was especially important, as attainment of *tvshka* status conferred

the full rights of manhood. In the absence of historical pathways, we must build new channels and direction for their spiritual and personal development.

Continuing with a systems lens, an opportunity exists to view STAR as a systems model of transculturation within Choctaw Nation, and going further, to view Choctaw Nation itself as thriving through a transculturative process. This research has detailed the historical focus on adapting, utilizing, and shaping Westernized education to meet the needs of the Nation - a political and social approach which has become part of the Choctaw tradition. In analyzing the scope and meaning behind STAR, it is clear that Choctaw Nation has found a way to honor traditional values while moderating the revisionist impact of Anglo influences on tribal priorities. This methodology speaks to the resilient and cross-cultural nature of being *Chahta* today, and has resonance for how indigenous peoples and their sovereign nations can thrive through their strong Native identity in multiple contexts.

Motivation and Modeling

Next, the concept of motivation is explored, followed by the impact of modeling within the STAR narratives through a Social Cognitive Theory (SCT) lens. Bandura's SCT had resonance in regard to the qualitative themes in the STAR participants' narratives. SCT represents a dynamic process by which the personal, the behavioral, and the environmental all inform the *doing* of a defined behavior (Bandura, 1986). From an SCT lens, the Choctaw participants evidenced belief in self and benefited from modeling as underpinnings for success in both the STAR program and also in their respective college settings.

As a seminal component of motivation, self-efficacy is a core element of SCT theory that can be seen in the self-belief and goal-setting aspects of motivation for STAR students. Self-efficacy as defined by Bandura (1986) incorporates belief in self and belief that one will succeed in a given task. From an academic perspective, many STAR students discussed perseverance in a difficult landscape, while making lifestyle choices such as peer relationships and extracurricular activities that aligned with their values. Thus, self-efficacy was closely tied to self-motivation and *achukmvlit akostinichi* within the sample, visible in their goal-setting, their determination to succeed, and their expectations of their future performance.

However, the theme of self-motivation represents a factor that appears separate from community and group-based supports within the qualitative analysis. This may seem at odds with the collective focus that is often found in Native research, yet internal motivation and personal goal-setting have been studied as protective and supportive academic factors for Native youth under an SCT theory umbrella (Scott, Dearing, Reynolds, Lindsay, Baird, & Hamill, 2008). McInerny and Swisher (1995) similarly found that sense of purpose and sense of competence were tied to the individual pursuit of excellence at school for Native students. From the qualitative portion of this research, elements of goal-setting, a personal desire to achieve, and perseverance were found to be shared characteristics for the female STAR interviewees. These results suggest that individual factors of self can positively impact academic performance, and should be considered in an overall discussion of Choctaw student motivation.

From a modeling perspective, teachers and school communities were important elements within the STAR *iksa* narrative, viewed as supportive and encouraging guides. SCT highlights this seminal component of modeling and shaping for Choctaw students. However, though an influential factor for success, examples of high-achieving Native academics may not be as visible or as accessible for Native students, due to the relics of colonization and inherent bias in the academy. The focus has often been placed on enrollment and retainment of Native American students, as opposed to fostering increasing numbers of Native professors and teachers. Yet receiving an education is merely one step in the process toward equal representation, and the need remains for more Native Americans in educational leadership roles. As an example, it has taken centuries to gain a foothold in professorships across the country. As recently as 2017, Native Americans comprised less than 1% of all full tenure track and assistant professorships among a reported 1.5 million faculty positions (National Center for Education Statistics, 2019). It is difficult to discuss progress in this area, when leading estimable institutions are also behind the curve, with Yale hiring their first Native American faculty in 2008, and Harvard hiring their first tenure track professor for their Native American studies program in 2018 (Rubin, 2018). In relation to SCT, we know that modeling will promote behavior, and so we must work to foster and employ Native American academics in spite of the discouraging statistics of the present.

Regarding specific Choctaw priorities, the spirit of *Iyyi Kowa* can be implemented by Choctaw students in roles as teachers and mentors for their people, and STAR can act as a conduit for transculturative sharing with Non-Native peers and teachers at school.

This could be accomplished through peer-to-peer sharing for STAR students who have obtained awards in the program; award recipients may wish to deepen understanding of Choctaw culture by both modeling and inviting conversations with Non-Native peers during the award process.

Yet, modeling of academic success for Choctaw students is hampered by the same endemic lack of visibility for the Nation within academia. In a positive first step, the Choctaw women of the STAR cohort are part of a changing trend, which has implications for enhancing belief in self and mastery, through their academic perseverance. The next step is promoting the development of Choctaw students in trade, graduate, and professional schools, thereby increasing relevant cultural representation for Choctaw Nation members as community mentors.

Social Learning

In addition to SCT, *Funds of Knowledge* was a critical theoretical component of the collective *iksa* of STAR participants. From an *iksa* perspective, these theories incorporate social learning as related to the unique environment of each individual. The STAR participants indicated personal journeys within their families, schools, and larger communities, which introduced both positive and negative motivators based on a dynamic social interchange. Peers were both exhortative yet cautionary tales, and family members were either active or passive in their encouragement of high academic performance.

Many of the young women reported that their families and peers provided social learning related to education, sometimes in novel and adaptable ways. This was

especially visible in the first-generation narrative, as parents were able to reinforce high achievement and college-going without necessarily having first-hand experience. In addition, parents, teachers, and larger communities that promoted education were frequently cited as supportive factors in the academic pursuit of each participant, echoing the *FK* approach of contextual, socially-based motivation for Indigenous students. Further, socially-based motivation flowed into service for the STAR participants, which exemplified their role in the *Iyyi Kowa* model; this concept of the power of strength through service has been researched in relation to Native students persevering in college (Nelson & Youngbull, 2015). Overall, drawing strength from multiple contexts is perhaps the most salient aspect of applying theory to the STAR program. Choctaw Nation and the young women of STAR represent an enduring and progressive legacy of not just survival, but of sharing the best elements of *achukmvlit akostinichi, iksa,* and *Iyyi Kowa* in order to thrive.

Implications for Practice

Next, implications for practice and relevant aspects for school psychology in particular are presented. For school psychologists, there are two main inferences from this research. The first involves logistical efforts within recruitment and training. The second concerns effective strategies to integrate and work within Native American communities.

As observed, there is a lack of Native academics and teachers within education. This lack of representation extends to school psychology, as less than 1% of all school psychologists in the United States identify as Native American, which suggests that most

Native students will receive services through Non-Native providers (Curtis, Castillo, & Gelley, 2012). Given the strong commitment to cultural competence as promoted by the National Association of School Psychologists (NASP), it is imperative that we work to recruit school psychologists from within Indigenous communities, to promote shared understanding and relevant best practice (Goforth, Brown, Macheck, & Swaney, 2016; Yosai & Goforth, 2016).

One potential strategy to promote recruitment can be found in the learning distance model. In their study of school psychology cohorts in rural Appalachia and Colorado, Gfroerer, Morrison, and Hunley (2008) found that the implementation of a hybrid distance/in-person model helped to foster the profession in areas that were otherwise "training deserts" for students. This echoes findings from Lahman, D'Amato, Stecker, & Grain (2006), which revealed the promise that distance learning can provide for rural areas. Beyond addressing shortages, incorporating technology and providing flexible models of training can help to reach future Native practitioners. Universities should work toward incorporating distance learning into accredited programs for school psychologists, as a means to promote educational equity through access (Campbell & Storo, 1996). This type of training model is particularly salient for Choctaw Nation, which is working to develop and improve its technological infrastructure.

Beyond recruitment, school psychologists face challenges and hurdles that limit their ability to provide effective services in the schools. Studies have indicated that school psychologists may lack knowledge of cultural customs and systems that act as barriers to service delivery for not only Native American but also diverse minority

populations (Cummings, 1985; Newell et al., 2010). Yet school psychologists are uniquely positioned in the intersection of academics and social/emotional health (NASP, 2010a; Splett, Fowler, Weist, McDaniel, & Dvorsky, 2013). The holistic interaction of environment, community, and personal factors upon student outcomes is a seminal foundation for school psychology, and as such, presents a ready pathway to connecting with Indigenous communities.

The STAR narratives revealed the importance of community-based resources for Choctaw students, based on traditional concepts of interconnection. For school psychologists to work effectively within Indigenous populations, they must be equipped with an understanding of how that interconnection informs student performance. Put simply, school psychologists must be fluent in culture in order to meet the needs of Native students. For practitioners in Choctaw Nation, that includes knowledge of the *Chahta* language, understanding of the rural geography and infrastructure, and awareness of the community and family resources that are either intact or unavailable to their students.

From a best practice standpoint, NASP (2012) has developed a responsive model for school psychologists working within Indigenous cultures. The main tenets include understanding of, and respect for, sovereignty; honoring the use and reclamation of Native language; assuming positive intent as a practitioner; building authentic reciprocity through modeling partnership with families and community; spiritual respect for Indigenous philosophies; developing and promoting culturally based assessment and intervention; promoting resiliency and validating traditional models of social/emotional

wellness; and recognizing the need for culturally relevant intervention based on physical and emotional signs. Within this NASP framework, the results of this study have particular resonance for school psychologists in developing and promoting appropriate assessment and intervention models with Choctaw and Indigenous students. As shown throughout the quantitative analyses, school psychologists should be aware of variations in high school performance for Native students, particularly as related to gender. Research has shown that Native males are more likely to be referred for discipline, and are disproportionately referred for Special Education and behavioral concerns (Brown, 2014; Robinson-Zanartu et al., 2011; Wehmeyer & Schwartz, 2001; Whitford & Levine-Donnerstein, 2014). Given the frustratingly high referral rates, school psychologists should take into account the aspects of language and culture that exist in such statistics. For example, nonverbal tests provide a better pathway to measure cognitive abilities for Indigenous youth, as verbal cognitive assessments are generally ineffective determinants of ability due to cultural bias ((Dauphinais & King, 1992; Fagan & Holland, 2002). School psychologists should carefully consider the utility of tests that are normed on predominately Anglo populations before administering such measures. Additionally, behavior referrals for Native males may result from cultural differences between school staff and Indigenous children. School psychologists must be learned students of and keen observers of these interactions, in order to promote equity for Native youth.

Though the NASP model provides a strong framework for Indigenous school psychological services, each Native culture is distinct. Models of Indigenous service delivery provide a starting point for cultural competence, yet more research is needed to

fully understand the nuanced and unique aspects of separate Native sovereign nations. This research has shown the specific motivators and supports for Choctaw students, yet a deeper awareness is still required from researchers in school psychology. Collaboration between school psychology training programs, accreditation boards, and researchers is needed to connect and share in this area. This also requires time for thoughtful and in-depth conversations between stakeholders. As a final note on implications for practice, we as school psychologists must advocate for that shared space for reflection and interaction between cultures.

Limitations

In this section, the limitations of the study are explored, in the context of research methodology and systemic factors. Issues of design and process of the research are analyzed in light of potential challenges within the study. First, the mixed methods data collection approach and sample characteristics are reviewed. Second, the scope of the study is explored in terms of reach and generalizability.

Design and Methodology

As noted in Chapter 1, the mixed-methods design was chosen as a way to reduce systemic bias in data collection and interpretation. However, the nature of mixed methods involves multiple stages within the research process, and is subject to limitations such as extended costs and duration, and also of potential researcher bias (Hansen, O'Brien, Meckler, Change, & Guise, 2016).

As related to extended duration, unanticipated delays were experienced within the data collection process. Due to the creation of agreements and communication between

two IRB entities, it was necessary to remain flexible while obtaining approval, commencing data collection, and finalizing analyses. Although additional time was required, this extended process allowed for the development of relationships between the PI and Choctaw Nation, and facilitated consultation with subject matter experts and elders within the community. This approach illustrated the necessary ethics of engaging stakeholders, showing respect for priorities, acting with transparency, and facilitating communication in research with Native cultures (Native American Center for Excellence, 2010). The best frame for this type of limitation is acknowledgement of what is gained by employing a fluid and Nation-centric view of research conducted with sovereign peoples.

To specify: as noted previously, my work with Choctaw Nation began with a phone call to the director of the STAR program, yet evolved into a deeper process of building relationships over time. From my initial contact with Mr. Jason Campbell at STAR, the conversation grew to include multiple interactions with researchers, elders, experts, and IRB panel members in Choctaw Nation. To say that these communications were frequent and voluminous does not address the heart of why they were critical to this research. For if we are truly to promote the values and priorities of Native Nations in research, that process can only begin through building relationships. This meant that listening, reflecting, and adapting were critical and central to the research process, regardless of constraints of research timelines.

Next, the issue of researcher bias in the design was encountered during the qualitative data collection phase, during the epoch process. For Phase 1 of the qualitative process, before thematically matching the interview data, I began by bracketing my

assumptions and experiences. This was a more difficult journey than I had initially anticipated. When I first conceptualized this research, I viewed myself as an impartial observer into the world of STAR students. STAR as a program was not in existence during my K-12 years, and I had not yet enrolled my own children in the program due to concerns with dual roles. However, my experience matched with my participants in many ways. As mentioned in the preface to this narrative, I had lived in and attended school in Red Oak, a town in the 10.5 counties of Choctaw Nation. I was born in Le Flore county, in the main hospital in Poteau. Many of my family members still live in the Northern parts of Choctaw Nation today. I realized that I had a strong desire to share my own history and association with my participants. In some ways, I was perhaps seeing myself reflected in their stories, to find the essence of what motivated me to pursue my education. This was something of a revelation to me, and required both acceptance that my experiences may have affected my approach to this research, and awareness of my space in the interview process.

However, it is necessary to consider the concept of bracketing from its Western lens in theory (Creswell, 2007). Though perhaps unintentional, the concept of isolating oneself from the narrative exists as an Anglo concept, and may in actuality negate the power of Native story-telling and community in qualitative methods. Yet qualitative methods appear to embrace personal opinions and attitudes as a theoretical orientation (Lambert, Jomeen, & McSherry, 2010). Research has proposed the concept of *reflexivity*, which acknowledges the personal views and growth derived from the research process (Ahern, 1999). My supposition is that we as Native researchers may engage in reflexivity

to understand our space in the process, without completely eradicating our knowledge and experience from our research. In this manner, I acknowledge the benefits of my identification with the participants, rather than viewing any personal experience as a barrier to thematic development. Such consideration may lend a model for future Native researchers to embrace and utilize their understanding of culture, rather than feeling forced to expunge their personal histories during the qualitative analysis. From this view, it is most likely the insistence on bracketing which is the limitation, rather than the concern of bias in understanding and applying one's own culture to the research.

Another aspect to my qualitative experience involved my own hopes and fears before and after each interview. These thoughts ranged from scheduling concerns to feelings of relief after successfully connecting with each participant. I had hopes regarding the relative willingness of participants to share their stories, and some post-disappointment occurred when certain themes either were or were not included in their narratives. The response style of each participant varied from open and gregarious, to somewhat reserved. I found that some participants were eager to share their past experiences and required little prompting, while others required a more formal approach to the interview. Some of this may be attributed to the phone-based interviewing method, which was a hindrance to deeper communication. In future, in-person interviews may mediate some of these interpersonal limitations.

Additionally, a data limitation in the study design may exist in the reporting elements of award attainment by school. An assumption of consistency between locations was made during analysis; however, confirmation of similarities or differences between

reporting locations was not measured in this research. Given this, it is possible that variations in reporting by school may have factored into differences observed in participant performance. A likely mediator of this limitation is the strength of the repeated measures design, which required that all participants remain enrolled in the program through each semester of high school. Yet, the possibility of reporting error remains as a potential factor in the analysis.

Scope

As noted, the interviews were conducted with an all-female sample. Though this led to positive generalizability for the motivations and aspirations of females within the cohort, it meant that male perspectives were not represented in the narratives. I am hesitant to describe the all-female sample as a study limitation; rather, I see it as regrettable that we could not also include the voices of male STAR participants in the research.

Some reasons for participants' lack of response can be found in the data use agreements that ensured data security and personal privacy. Namely, participants' confidentiality was of high importance, and as such, protecting individual information meant that recruiting efforts were focused on select means. As a result, the selected database was chosen from a highly specific and narrow high school cohort. While the sample of 313 participants was sufficient for power analyses, it may not reflect a complete quantitative view of Choctaw students within the program. Additionally, an *N* of 7 participants was enrolled for interviews from the total 313 population. Given this, the thematic elements may not encompass all themes that could arise within a larger sample.

Regarding the reach of recruitment strategies, it is possible that utilizing an email-based invitation could be less appealing to male participants, or that it would be advisable to use different techniques in order to contact this targeted group. As an anecdote, one notable moment occurred when a participant's mother contacted me directly to inquire as to the study parameters. When informed that her son was eligible to participate, the participant's mother indicated that she would encourage her son to reach out to me. Ultimately, he did not volunteer to be a part of the research, but perhaps his story provides an indication that additional methods, reliant on community, could help to expand a similar study sample focused on male participants in future.

Technological barriers were additional limitations in the sample scope. Recruitment relied on the assumption of access to Wi-Fi, email, and phones for the qualitative data collection. Though unintentional, the participants who volunteered may have represented a biased sample that heavily drew from those from a higher SES group, or those who lived near denser concentrations of towns and cities. Further research is needed to understand the experiences of those who may not have access to technology in a similar manner. A way to combat this would be conduct focus group interviews of a STAR sample, onsite at either high schools or community centers, to decrease barriers to participation.

Further, for this study, SES was defined as students who either did or did not qualify for Free and Reduced lunch status. However, SES may include additional factors of housing, family income, and levels of parental education that were not available in this research. It is possible that the selected lens of SES may not fully capture the economic

and social hurdles faced by STAR students, and this area should be explored further to determine the true impact on student performance.

Another potential sample limitation of scope can be found in the near-universal post-secondary experiences of the female interviewees. All 7 had either attended or were currently attending college. Though a celebratory and positive outcome, this meant that the stories of students who did not attend college were missing from the analysis. An initial goal of this study was to understand the motivating factors and challenges of all STAR students, both those who obtain awards consistently and those who face a different path along their academic journeys. However, this is an area for future research to consider.

Conclusion

As a conclusion to this research, these results are analyzed in light of implications for Choctaw Nation, such as communication and application of study findings, expanding the reach and administration of STAR within the Nation's educational programs, and suggestions for community-based collaboration.

Communication

First, STAR represents a collected database of Choctaw Nation's future. If, as this research has shown, it is possible to identify those students who are on a pathway to college, it is then possible that Choctaw Nation could utilize STAR as a resource to both target and design supportive programs for these students (e.g., ACT/SAT prep and living skills curriculum for post-secondary). Going further, it is also true that students who were enrolled in the program yet did not consistently obtain awards, and who may not be on a

steady college track, are also contained within the STAR data. This in turn presents an opportunity to identify and intervene for any student who may be at risk of either not fulfilling their potential, or at worst, discontinuing their education prematurely. My sense is that, in addition to providing a strong motivator, enrollment in the STAR program creates an indelible trail of identification, wherein Choctaw Nation might find the links to those who may otherwise be lost in the cracks of the Western educational system.

One of the most remarkable aspects of the STAR program is its place within the Native nation building efforts of Choctaw Nation. As defined by Brayboy, Solyom, and Castagno (2014), Native nation building refers to the development and strengthening of community and increasing capacity, all within a framework of sovereign independence. STAR represents self-determination for Indigenous peoples, and is an example of how organically-created and self-determined programs promote success for Native Americans. Similar to the intertwined genesis tales of our ancestors, STAR's origins are based in the sharing of best-practices between the Chickasaw and Choctaw Nations. Moving forward, Choctaw Nation may consider sharing the results of STAR and their internal processes with other sovereign peoples, in an attempt to highlight the specific nation building aspects of their educational programming.

Administration

Second, this analysis highlighted ways in which Choctaw Nation can broaden and extend the reach of STAR for its high school students, particularly as related to award categories. From an educational achievement and engagement perspective, males were less likely than their female peers to obtain the highest grade award during the cohort

years, and attendance was the least-awarded piece of the STAR program for both genders. Beyond achieving a perfect GPA or perfect attendance, a more targeted goal may be to keep Choctaw students – young men in particular – from dropping out of high school altogether. It is possible that the program award structure can be focused differently, in order to tap into community involvement as a way to promote engagement and investment in high school.

Currently, achievement and engagement in STAR is measured through grades and attendance. However, it is important to create a sense of belonging and investment, as a way to promote strong academic performance. Research has shown that students who feel connected to their school are in turn motivated to achieve, and exhibit higher academic expectations of self (Berends, 1995; Hagborg, 1998; Roeaser, Midgley, & Urdan, 1996). Similarly, the STAR participants of this study remained engaged in their academics through inclusion in extracurricular and volunteer activities. To acknowledge belonging within a motivational process, STAR may consider incentivizing extracurricular sports and club involvement for students, by providing an alternative "A" grade for those who successfully complete a semester of sports or after-school activities. STAR may consider accepting completion of a Choctaw Language School program or Choctaw heritage activity for youth, as well. Specifically, Choctaw Nation now offers a Youth Advisory Board (YAB) for their 8th- through 12th-graders, which focuses on service to the community. If alternative activities such as these could be recognized in STAR, extracurricular participation might be submitted in place of grades or attendance within a student's profile – a change that may benefit male students in their academic self-esteem

and psychosocial wellness, in particular (Belton, Prior, Wickel, & Woods, 2016; Farb & Matjasko, 2012; Feldman & Matjaskso, 2005).

Traditional Choctaw matriarchal society is a frequently-acknowledged factor in this analysis. Yet, the historical Choctaw process of education for males is of equal importance, in terms of creating new pathways for the *tvshka* to thrive in today's Choctaw Nation. As noted, young men of the Nation were historically educated through mentorship from their maternal uncles. Today, this could encompass apprenticeships in trade that are facilitated in partnership with Choctaw Nation, and formalized high school shadowing opportunities for teenagers to explore multiple career paths, which have resonance for at-risk high school youth (Broussard, Mosley-Howard, & Roychoudhury, 2006). Another option is to promote a funded "gap year" for Choctaw high school students before they enter college, but specifically focused on service within Choctaw Nation. Researchers have found that students who enrolled in college following a gap year exhibited stronger academic performance, and this finding was especially profound for male students who exhibited prior lower achievement during their high school years (Birch & Miller, 2007; Crawford & Cribb, 2012). Incorporating a youth service year would mean providing employment for teens within an *Iyyi Kowa* model. In this way, members of Choctaw Nation can provide a group-based system to mentor and tutor their youth, through avenues that honor traditional values.

Next, finances were a reality for many of the interview participants. STAR was often referenced in connection with other programs from Choctaw Nation, such as the SSAF and homework clubs that incentivized performance. Not every Choctaw student

may wish to pursue a college education, though the hope of programs like STAR is for every Choctaw student to feel that they *can* attend, if that is their ultimate goal. From a purely financial perspective, it is possible that increasing the STAR awards each semester, such as doubling the amounts, could motivate additional students in their academic journeys. An initial starting point could be increasing the amount awarded for the Fall and Spring of 9th-graders to achieve a boost in performance, in hopes of decreasing future dropout risk (Allensworth & Easton, 2007). Another option is to provide a funds-matching system for college-savings vehicles, such as 529 plans. A longitudinal study by Elliott (2013) revealed that even a modest savings amount of $500 or less in a 529 plan increased future college enrollment by 300% for students of low and moderate income families. Analogous to the self-efficacy concept of motivation and achievement, students may be more likely to enroll in college if they believe that they can afford it (Luna De La Rosa & Tierney, 2006). It is possible that providing a matching award in a college savings plan, beginning in 2nd grade, can promote a belief in access to college-going for Choctaw STAR students.

Though dropout prevention is a central focus of STAR, it is important that we do not lose sight of Native students who may have experienced a disconnect from their high school education. Linearity is the current accepted method of completing high school, though this alone should not invalidate those who do not fall into this category. An inclusive view of definitions suggests that we term these students as "push outs" rather than as "drop-outs" (Campbell, 2007), to turn our focus to systemic failures rather than deficits within the student, and as we allow for multiple circumstances that may preclude

Native youth from thriving in a traditional high school setting (Rumberger & Linn, 2004; Stearns & Glennie, 2006).

A discussion of "push outs" brings up a salient point regarding the concept of awards for attendance, defined in this study as educational engagement. Based on the STAR narratives, the impact of health and personal wellness on attendance extended beyond the individual to include larger family networks; specifically, many of the participants noted that they were periodically unable to attend school based on the wellness needs within their family systems. Given this, it is possible that the definition of perfect attendance could be adjusted based on Choctaw priorities within an Iyyi Kowa model. Specifically, STAR may consider the impact of family wellness on attendance award criteria, to include those students who are attending to immediate family needs. In this manner, STAR can model transculturation by prioritizing Choctaw values within a Western education system.

Collaboration

Another piece of the interviews involved recommendations from former STAR students to perhaps streamline or improve upon the STAR model. Many of the interviewees expressed a desire for more information regarding life skills and transitions toward college; it is possible that sessions focused on these adaptive skills could be incorporated into the STAR model, which may have resonance during the transitional Junior and Senior high school years. As part of the educational lifeline for Choctaw youth, STAR can act as a pathway to managing deadlines, understanding scholarships opportunities, and determining next steps for college and career. In their analysis of the

primary barriers to college-going, Luna de la Rosa and Tierney (2006) found that students and their families may struggle to work through the bureaucratic process of applying for college admissions and financial aid. Considering the logistical hurdles, Choctaw teens can benefit from mentorship within the community, such as bringing back former graduates to counsel high schoolers on how to navigate the process, and holding in-person meetings for parents and students at local schools.

As a way to encourage future career and post-secondary goals, Choctaw Nation can provide bridges to information. For example, the *Chahta* Foundation exists as an additional scholarship source for college-bound Choctaw students. STAR could be aligned with this "next step" pathway for college funding, by providing informational sessions to all STAR students regarding the available programs for post-high school financing, such as the *Chahta* Foundation and scholarships from the Choctaw Higher Education department. In addition, information sessions which focus on trade-based resources such as the Nation's Career Development Program can support students who are focused on a career-readiness track.

Disseminating information is the pathway to promoting change. For students and families who have access to technology and as access to technology increases over the years for Choctaw Nation, STAR could benefit from an app-based system, which provides timeline updates and personalized accounts for participants and their families, and which also links educational programs of the Nation into one informational source. Yet isolation and lack of access are barriers for many students now. It is possible that STAR could benefit from adding informational mailers into the STAR award certificate,

specifically targeting these high school age groups and their families. Further, schools and places of worship can be a conduit to communicating with parents through culturally-relevant means (Davies, 1991). Community-based informational sessions can provide collaborative support for Choctaw students, and work to reinforce timelines for applications, scholarships, and next steps in college and career. The rural nature of many of Choctaw Nation's schools underscores the importance of school-based information sessions. Meeting students where they are, and including parents and families in that process (Van Roekel, 2008), are parts of the community support structure that created the successful STAR participants of this study.

As noted, data consolidation for the STAR program began in 2015, which meant that a study of this nature could come to fruition, beginning with records collected in the 2014-2015 school year. This research project represented the first structured analysis of the STAR program, and as such, was limited in initial scope. However, there remains a wealth of information that can and should be explored for Choctaw Nation. The most pressing research concerns would be related to telling the stories of male participants, and of those participants who experienced a different journey through high school. This information may help to shape the program into an intervention model, which could support Choctaw students toward high school graduation and beyond. Next, the narratives of higher education and motivation in the early college years should be explored further, with student outcomes monitored in a similar way to the high school years of this study. What if STAR extended past high school? What if it incorporated trade schools and traditional college settings? It is possible that STAR could adapt and

motivate students further than the K-12 years by extending its current reach. Yet, beyond recommendations for the efforts of tomorrow, the main conclusion of this research is that STAR as a self-determined initiative has become an embedded piece of the Nation's educational motivation structure of today, and now represents a pathway for current leaders to identify and reach out to future leaders of Choctaw Nation.

Afterword

I have chosen to conclude this research on a qualitative note, with an anecdote regarding a future STAR student, named Emery Delap, and his mother (me). First, many of my personal concerns related to this research involved my own lack of knowledge regarding my Nation. Due to distance, time, and innumerable factors, I did not have the direct interaction with my own people that I would have preferred, and I felt distinctly apprehensive at the outset. This dislocation was the beginning of my experience, yet the end has been different. Through this process, I have met many Choctaw people who were invaluable to me as my project progressed. I was also fortunate enough to meet a tribal medicine woman who lives near me, and she was kind enough to create a medicine bag for my son, Emery. His totem is the rabbit, like mine. Not surprisingly, Emery has different views on how to handle a medicine bag, and it has become a near constant part of his wardrobe, though I refuse to let him take it into the shower. Recently, I was watching my son playing with his friends in our backyard, arms slung through the straps of his medicine bag, smiling and laughing with the energy of a new 2nd grader. I thought about the things that make us known to one another, that keep us together. In that moment, I felt connected to him – just connected, without formal or measurable means. I

believe that kind of connection, if lost or misplaced for a time, can be rebuilt anew. In some way, my hope is that I have created a new connection to my people with this research, and in conclusion, I hope to create many more.

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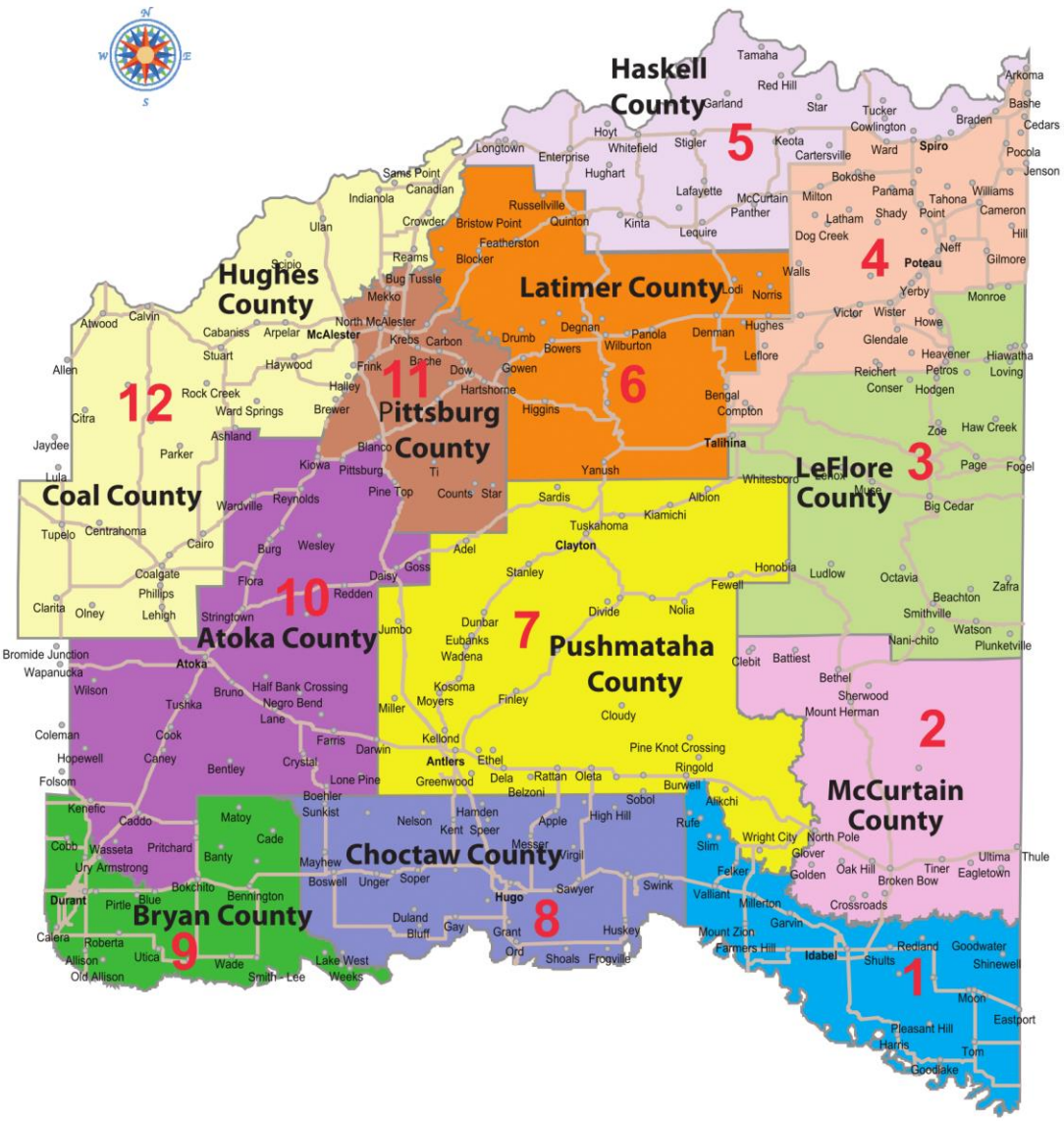
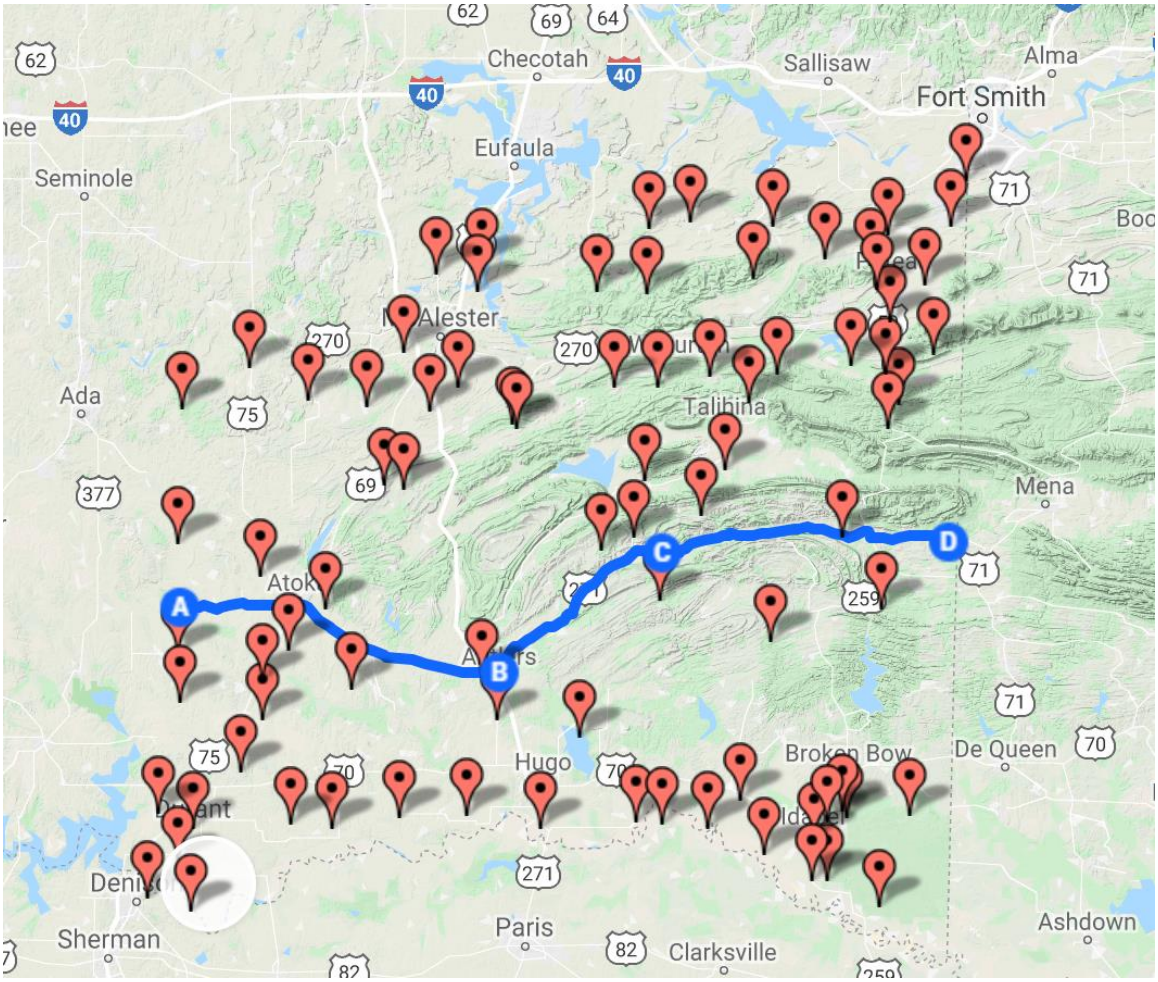
Appendix A: Map of Choctaw Nation



Appendix B: Map of Locations



Schools by Northern and Southern Location Boundaries

Appendix C: Multinomial and ANOVA Tables

Logistic Regression of Freshman Fall Semester Awards - Location, Gender, and SES

Model Fitting Information

	Model Fitting Criteria	Likelihood Ratio Tests		
Model	-2 Log Likelihood	Chi-Square	df	*p*
Intercept Only	94.482			
Final	68.624	25.858	6	<.001

Goodness-of-Fit

	Chi-Square	df	*p*
Pearson	12.221	8	.142
Deviance	12.094	8	.147

Likelihood Ratio Tests

	Model Fitting Criteria	Likelihood Ratio Tests		
Effect	-2 Log Likelihood of Reduced Model	Chi-Square	df	*p*
Intercept	68.624[a]	<.001	0	.
Location	79.546	10.922	2	.004
Gender	79.627	113	2	.004
EcoDis	74.317	5.693	2	.058

Case Processing Summary

		N	Marginal Percentage
Freshman Fall 14-15	No Award	171	54.6%
	All A's	58	18.5%
	A's and B's	84	26.8%
Location	North	155	49.5%
	South	158	50.5%
Gender	Male	129	41.2%
	Female	184	58.8%
EcoDis	Non Eco Dis	113	36.1%

	Eco Dis	200	63.9%
Valid		313	100.0%
Missing		0	
Total		313	
Subpopulation		8	

Parameter Estimates

Freshman Fall[a]		B	SE	Wald	df	*p*	Exp(B)	95% CI	
								LL	UL
All A's	Intercept	-1.52	.29	26.86	1	<.001			
	North	1.06	.33	10.34	1	<.001	2.87	1.51	5.47
	Male	-1.04	.34	9.21	1	<.001	.35	.18	.69
	Non EcoDis	.65	.32	4.06	1	.04	1.92	1.02	3.63
A's and B's	Intercept	-.81	.23	12.58	1	<.001			
	North	.30	.27	1.20	1	.27	1.35	.79	2.30
	Male	-.53	.28	3.60	1	.06	.59	.34	1.02
	Non EcoDis	.52	.28	3.47	1	.06	1.69	.97	2.92

a. The reference category is: No Award; South, Female, EcoDis.

R^2(Nagelkerke)=.09

Logistic Regression of Freshman Spring Semester Award / Location, Gender, and SES

Model Fitting Information

	Model Fitting Criteria	Likelihood Ratio Tests		
Model	-2 Log Likelihood	Chi-Square	df	*P*
Intercept Only	79.589			
Final	61.724	17.865	6	.007

Goodness-of-Fit

	Chi-Square	Df	*P*
Pearson	3.703	8	.883
Deviance	3.640	8	.888

Likelihood Ratio Tests

	Model Fitting Criteria	Likelihood Ratio Tests		
Effect	-2 Log Likelihood of Reduced Model	Chi-Square	df	*P*
Intercept	62.559[a]	<.001	0	.
Location	67.146	4.587	2	.101
Gender	76.964	14.404	2	.001
EcoDis	64.893	2.333	2	.311

Case Processing Summary

		N	Marginal Percentage
Freshman Spring 14-15	No Award	154	49.2%
	All A's	61	19.5%
	A's and B's	98	31.3%
Location	North	155	49.5%
	South	158	50.5%
Gender	Male	129	41.2%
	Female	184	58.8%
EcoDis	Non Eco Dis	113	36.1%
	Eco Dis	200	63.9%

Valid	313	100.0%
Missing	0	
Total	313	
Subpopulation	8	

Parameter Estimates

Freshman Spring		B	SE	Wald	df	*p*	Exp(B)	95% CI	
								LL	UL
All A's	Intercept	-.82	.27	9.26	1	<.001			
	North	.52	.31	2.73	1	.09	1.68	.90	3.11
	Male	-1.13	.33	11.46	1	<.001	.32	.16	.61
	Non EcoDis	.15	.32	.22	1	.63	1.16	.61	2.19
A's and B's	Intercept	-.18	.22	.68	1	.40			
	North	-.03	.26	.02	1	.86	.96	.57	1.61
	Male	-.69	.26	6.61	1	.01	.50	.29	.84
	Non EcoDis	.12	.27	.20	1	.65	1.13	.66	1.93

a. The reference category is: No Award; South; Female; EcoDis

R^2(Nagelkerke)=.06

Logistic Regression of Sophomore Fall Semester Award / Location, Gender, and SES

Model Fitting Information

	Model Fitting Criteria	Likelihood Ratio Tests		
Model	-2 Log Likelihood	Chi-Square	df	*p*
Intercept Only	82.954			
Final	62.559	20.395	6	.002

Goodness-of-Fit

	Chi-Square	df	*p*
Pearson	4.120	8	.846
Deviance	4.133	8	.845

Likelihood Ratio Tests

	Model Fitting Criteria	Likelihood Ratio Tests		
Effect	-2 Log Likelihood of Reduced Model	Chi-Square	df	*p*
Intercept	62.559[a]	<.001	0	.
Location	67.146	4.587	2	.101
StudentGenderType	76.964	14.404	2	.001
EcoDis	64.893	2.333	2	.311

Case Processing Summary

		N	Marginal Percentage
Sophomore Fall 15-16	No Award	133	42.5%
	All A's	62	19.8%
	A's and B's	118	37.7%
Location	North	155	49.5%
	South	158	50.5%
Gender	Male	129	41.2%
	Female	184	58.8%

EcoDis	Non Eco Dis	113	36.1%
	Eco Dis	200	63.9%
Valid		313	100.0%
Missing		0	
Total		313	
Subpopulation		8	

Parameter Estimates

Sophomore Fall[a]		B	SE	Wald	df	*p*	Exp(B)	95% CI	
								LL	UL
All A's	Intercept	-.61	.27	4.90	1	.02			
	North	.48	.32	2.29	1	.13	1.62	.86	3.03
	Male	-1.12	.33	11.09	1	<.01	.32	.16	.63
	Non EcoDis	.07	.33	.05	1	.82	1.07	.56	2.07
A's and B's	Intercept	.14	.22	.40	1	.52			
	North	-.19	.25	.58	1	.44	.82	.49	1.36
	Male	-.71	.26	7.37	1	<.01	.49	.29	.82
	Non EcoDis	.39	.26	2.16	1	.14	1.48	.87	2.51

a. The reference category is: No Award; South, Female, EcoDis.

R^2(Nagelkerke)=.07

Logistic Regression of Sophomore Spring Semester Award / Location, Gender, and SES

Model Fitting Information

	Model Fitting Criteria	Likelihood Ratio Tests		
Model	-2 Log Likelihood	Chi-Square	df	*p*
Intercept Only	86.806			
Final	66.039	20.767	6	.002

Goodness-of-Fit

	Chi-Square	df	*p*
Pearson	7.735	8	.460
Deviance	9.678	8	.288

Likelihood Ratio Tests

	Model Fitting Criteria	Likelihood Ratio Tests		
Effect	-2 Log Likelihood of Reduced Model	Chi-Square	df	*p*
Intercept	66.039[a]	<.001	0	.
Location	68.808	2.769	2	.250
Gender	84.159	18.120	2	<.001
EcoDis	66.395	.356	2	.837

Case Processing Summary

		N	Marginal Percentage
Sophomore Spring 15-16	No Award	146	46.6%
	All A's	72	23.0%
	A's and B's	95	30.4%
Location	North	155	49.5%
	South	158	50.5%
Gender	Male	129	41.2%
	Female	184	58.8%

EcoDis	Non Eco Dis	113	36.1%
	Eco Dis	200	63.9%
Valid		313	100.0%
Missing		0	
Total		313	
Subpopulation		8	

Parameter Estimates

Sophomore Spring		B	SE	Wald	df	*p*	Exp(B)	95% CI	
								LL	UL
All A's	Intercept	-.37	.25	2.18	1	.14			
	North	.33	.30	1.18	1	.28	1.38	.77	2.49
	Male	-1.33	.33	16.19	1	<.001	.26	.14	.51
	Non EcoDis	-.08	.31	.07	1	.79	.92	.50	1.70
A's and B's	Intercept	-.17	.23	.54	1	.46			
	North	-.20	.27	.58	1	.45	.82	.48	1.38
	Male	-.45	.27	2.81	1	.09	.64	.38	1.08
	Non EcoDis	.11	.28	.16	1	.69	1.12	.65	1.92

a. The reference category is: No Award; South; Female; EcoDis

R^2(Nagelkerke)=.07

Logistic Regression of Junior Fall Semester Award / Location, Gender, and SES

Model Fitting Information

	Model Fitting Criteria	Likelihood Ratio Tests		
Model	-2 Log Likelihood	Chi-Square	df	*P*
Intercept Only	88.843			
Final	63.331	25.511	6	<.001

Goodness-of-Fit

	Chi-Square	df	*P*
Pearson	5.438	8	.710
Deviance	7.009	8	.536

Likelihood Ratio Tests

	Model Fitting Criteria	Likelihood Ratio Tests		
Effect	-2 Log Likelihood of Reduced Model	Chi-Square	df	*P*
Intercept	63.33	.00	.00	.
Location	71.89	8.56	2.00	.01
Gender	78.61	15.28	2.00	.00
EcoDis	66.59	3.26	2.00	.20

Case Processing Summary

		N	Marginal Percentage
Junior Fall 16-17	No Award	142	45.4%
	All A's	68	21.7%
	A's and B's	103	32.9%
Location	North	155	49.5%
	South	158	50.5%
Gender	Male	129	41.2%
	Female	184	58.8%
EcoDis	Non Eco Dis	113	36.1%
	Eco Dis	200	63.9%

Valid	313	100.0%
Missing	0	
Total	313	
Subpopulation	8	

Parameter Estimates

Junior Fall[a]		B	SE	Wald	df	*p*	Exp(B)	95% CI	
								LL	UL
All A's	Intercept	-.60	.26	5.45	1	.02			
	North	.36	.31	1.37	1	.24	1.43	.79	2.60
	Male	-1.10	.34	10.52	1	<.001	.33	.17	.65
	Non EcoDis	.09	.32	.08	1	.78	1.09	.58	2.05
A's and B's	Intercept	-.33	.23	2.06	1	.15			
	North	-.55	.27	4.31	1	.04	.58	.34	.97
	Male	.17	.26	.40	1	.53	1.18	.70	1.98
	Non EcoDis	.48	.27	3.11	1	.08	1.61	.95	2.75

a. The reference category is: No Award; South; Female; EcoDis

R^2(Nagelkerke)=.08

Logistic Regression of Junior Spring Semester Award / Location, Gender, and SES

Model Fitting Information

	Model Fitting Criteria	Likelihood Ratio Tests		
Model	-2 Log Likelihood	Chi-Square	df	*p*
Intercept Only	92.07			
Final	66.12	25.95	6	<.001

Goodness-of-Fit

	Chi-Square	df	*p*
Pearson	7.92	8	.44
Deviance	8.00	8	.43

Likelihood Ratio Tests

	Model Fitting Criteria	Likelihood Ratio Tests		
Effect	-2 Log Likelihood of Reduced Model	Chi-Square	df	*p*
Intercept	66.12	<.001	0	.
Location	69.27	3.15	2	.21
Gender	87.66	21.54	2	<.001
EcoDis	67.63	1.51	2	.47

Case Processing Summary

			Marginal Percentage
Junior Spring 16-17	No Award	140	44.7%
	All A's	80	25.6%
	A's and B's	93	29.7%
Location	North	155	49.5%
	South	158	50.5%
Gender	Male	129	41.2%
	Female	184	58.8%
EcoDis	Non Eco Dis	113	36.1%

	Eco Dis	200	63.9%
Valid		313	100.0%
Missing		0	
Total		313	
Subpopulation		8	

Parameter Estimates

Junior Spring[a]		B	SE	Wald	df	*p*	Exp(B)	95% CI	
								LL	UL
All A's	Intercept	-.09	.24	.13	1	.72			
	North	.22	.29	.56	1	.45	1.24	.70	2.20
	Male	-1.36	.33	17.14	1	<.01	.26	.13	.49
	Non EcoDis	-.38	.31	1.47	1	.22	.69	.38	1.26
A's and B's	Intercept	-.20	.24	.69	1	.41			
	North	-.33	.27	1.47	1	.23	.72	.42	1.22
	Male	-.05	.27	.03	1	.86	.95	.56	1.62
	Non EcoDis	-.09	.28	.11	1	.75	.91	.53	1.58

a. The reference category is: No Award; South, Female; EcoDis

R^2(Nagelkerke)=.09

Logistic Regression of Senior Fall Semester Award / Location, Gender, and SES

Model Fitting Information

	Model Fitting Criteria	Likelihood Ratio Tests		
Model	-2 Log Likelihood	Chi-Square	df	*p*
Intercept Only	99.11			
Final	70.79	28.31	6	<.001

Goodness-of-Fit

	Chi-Square	df	*p*
Pearson	11.17	8	.19
Deviance	11.44	8	.18

Likelihood Ratio Tests

	Model Fitting Criteria	Likelihood Ratio Tests		
Effect	-2 Log Likelihood of Reduced Model	Chi-Square	df	*p*
Intercept	70.79	<.001	0	.
Location	76.47	5.68	2	.06
Gender	94.78	23.98	2	<.001
EcoDis	71.08	.29	2	.87

Case Processing Summary

		N	Marginal Percentage
Senior Fall 17-18	No Award	101	32.3%
	All A's	107	34.2%
	A's and B's	105	33.5%
Location	North	155	49.5%
	South	158	50.5%
Gender	Male	129	41.2%
	Female	184	58.8%
EcoDis	Non Eco Dis	113	36.1%
	Eco Dis	200	63.9%
Valid		313	100.0%

Missing	0
Total	313
Subpopulation	8

Parameter Estimates

Senior Fall[a]		B	SE	Wald	df	*p*	Exp(B)	95% CI	
								LL	UL
All A's	Intercept	.21	.24	.77	1	.38			
	North	.49	.29	2.89	1	.09	1.64	.93	2.88
	Male	-1.22	.31	15.89	1	<.01	.29	.16	.54
	Non EcoDis	.07	.30	.06	1	.81	1.08	.60	1.94
A's and B's	Intercept	.02	.25	.00	1	.95			
	North	-.17	.28	.36	1	.55	.84	.49	1.47
	Male	.09	.28	.09	1	.76	1.09	.63	1.89
	Non EcoDis	.16	.29	.28	1	.59	1.17	.66	2.07

a. The reference category is: No Award; South; Female; EcoDis

R^2(Nagelkerke)=.09

Logistic Regression of Senior Spring Semester Award / Location, Gender, and SES

Model Fitting Information

	Model Fitting Criteria	Likelihood Ratio Tests		
Model	-2 Log Likelihood	Chi-Square	df	*p*
Intercept Only	91.78			
Final	62.56	29.21	6	<.001

Goodness-of-Fit

	Chi-Square	df	*p*
Pearson	3.56	8	.89
Deviance	3.89	8	.87

Likelihood Ratio Tests

	Model Fitting Criteria	Likelihood Ratio Tests		
Effect	-2 Log Likelihood of Reduced Model	Chi-Square	df	*p*
Intercept	62.56	<.001	0	.
Location	67.51	4.94	2	.09
Gender	82.13	19.56	2	<.001
EcoDis	68.34	5.78	2	.06

Case Processing Summary

		N	Marginal Percentage
Senior Spring 17-18	No Award	134	42.8%
	All A's	91	29.1%
	A's and B's	88	28.1%
Location	North	155	49.5%
	South	158	50.5%
Gender	Male	129	41.2%
	Female	184	58.8%
EcoDis	Non Eco Dis	113	36.1%
	Eco Dis	200	63.9%
Valid		313	100.0%

Missing	0
Total	313
Subpopulation	8

Parameter Estimates

Senior Spring		B	SE	Wald	df	*p*	Exp(B)	95% CI	
								LL	UL
All A's	Intercept	-.32	.23	1.89	1	.17			
	North	.63	.28	4.85	1	.03	1.87	1.07	3.27
	Male	-1.25	.31	16.37	1	<.01	.29	.16	.53
	Non EcoDis	.19	.30	.38	1	.54	1.20	.67	2.17
A's and B's	Intercept	-.72	.25	8.45	1	<.01			
	North	.21	.28	.56	1	.45	1.23	.71	2.13
	Male	-.12	.28	.19	1	.66	.89	.51	1.53
	Non EcoDis	.68	.29	5.61	1	.02	1.97	1.12	3.44

a. The reference category is: No Award; South; Female; EcoDis

R^2(Nagelkerke)=.10

ANOVA Main Effects Analysis – (4X2)(2X2X2)

Sphericity

	Epsilon
Within Subjects Effect	Greenhouse-Geisser
Academic Year	.98
Semester	10
Year * Sem	.99

Between-Subjects Factors

	Label	N
Location	North	155
	South	158
Gender	Male	129
	Female	184
EcoDis	Non Eco Dis	113
	Eco Dis	200

Test of Within Subjects Effects

Predictor	Sum of Squares	df	Mean Square	F	*p*	Partial η^2
Year	**4.63**	**2.92**	**1.58**	**6.75**	**<.001**	**.02**
Year * Location	**1.95**	**2.92**	**.67**	**2.84**	**.038**	**.01**
Year * Gender	.94	2.92	.32	1.37	.25	.00
Year * EcoDis	.58	2.92	.20	.84	.47	.00
Year * Location * Gender	.06	2.92	.02	.09	.96	.00
Year * Location * EcoDis	.33	2.92	.11	.48	.69	.00
Year * Gender * EcoDis	.23	2.92	.08	.33	.80	.00
Year * Location * Gender * EcoDis	.29	2.92	.10	.42	.74	.00
Error(Year)	209.12	891.72	.23			
Sem	**2.53**	**1**	**2.53**	**14.94**	**<.001**	**.05**
Sem * Location	.18	1	.18	1.05	.31	.00
Sem * Gender	**.66**	**1**	**.66**	**3.89**	**.049**	**.01**
Sem * EcoDis	.44	1	.44	2.57	.11	.01
Sem * Location * Gender	.24	1	.24	1.42	.23	.00
Sem * Location * EcoDis	.00	1	.00	.01	.94	.00
Sem * Gender * EcoDis	.04	1	.04	.25	.61	.00

Sem * Location * Gender * EcoDis	.02	1	.02	.13	.72	.00
Error(Sem)	51.67	305.00	.17			
Year * Sem	.99	2.97	.33	1.97	.12	.01
Year * Sem * Location	.80	2.97	.27	1.59	.19	.01
Year * Sem * Gender	.21	2.97	.07	.42	.73	.00
Year * Sem * EcoDis	.87	2.97	.29	1.73	.16	.01
Year * Sem * Location * Gender	.35	2.97	.12	.69	.55	.00
Year * Sem * Location * EcoDis	.56	2.97	.19	1.11	.34	.00
Year * Sem * Gender * EcoDis	.11	2.97	.04	.22	.88	.00
Year * Sem * Location * Gender * EcoDis	.93	2.97	.32	1.86	.14	.01
Error(Year*Sem)	153.27	904.77	.169			

Tests of Between-Subjects Effects

Source	Sum of Squares	df	Mean Square	F	*p*	Partial η^2
Intercept	**784.39**	**1**	**784.39**	**788.74**	**<.001**	**.721**
Location	.11	1	.11	.11	.74	<.001
Gender	**10.70**	**1**	**10.70**	**10.75**	**.001**	**.03**
EcoDis	.544	1	.54	.55	.46	.002
Location * Gender	.24	1	.24	.24	.63	.001
Location * EcoDis	.90	1	.90	.91	.34	.003
Gender * EcoDis	.34	1	.34	.34	.56	.001
Location * Gender * EcoDis	**5.67**	**1**	**5.67**	**5.72**	**.017**	**.018**
Error	303.32	305	.99			

ANOVA Simple Effects Analysis Awards by Year by Location –

Descriptive Statistics

Location		Mean	Std. Deviation	N
North	Freshman Year	1.14	.974	155
	Sophomore Year	1.14	.926	155
	Junior Year	1.10	.874	155
	Senior Year	1.34	.793	155
South	Freshman Year	1.05	.938	162
	Sophomore Year	1.30	19	162
	Junior Year	1.27	.965	162
	Senior Year	1.32	.923	162

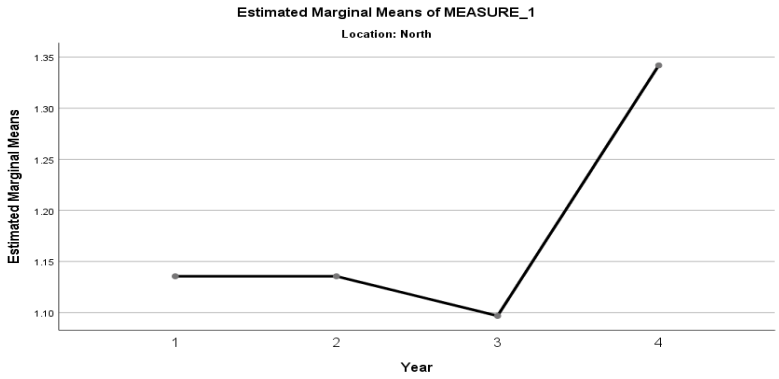
Tests of Within-Subjects Effects

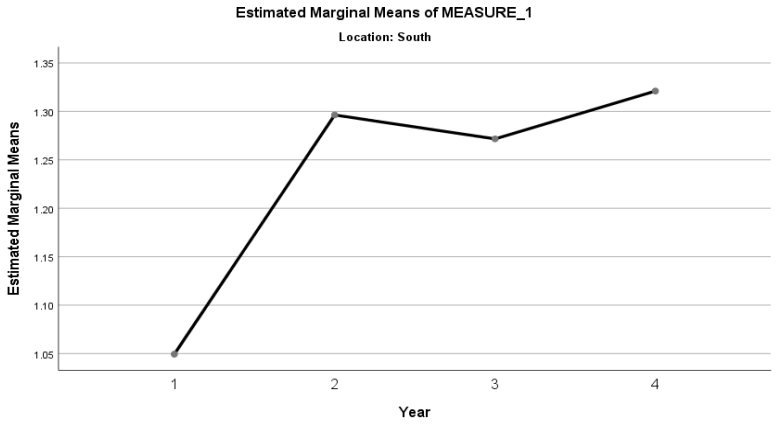
Location	Source	Sum of Squares	df	Mean Square	F	*p*
North	**Year**	**5.75**	**2.76**	**2.08**	**4.49**	**.005**
	Error(Year)	197.25	424.95	.46		
South	**Year**	**7.61**	**2.92**	**2.60**	**5.26**	**.002**
	Error(Year)	232.90	470.69	.50		

Awards by Year - Paired Samples Test by Location

			Paired Differences							
						95% CI				
Location			Mean	Std. Dev.	SEM	L	U	t	df	*p*
North	Pair 1	Freshman – Sophomore	<.001	.97	.07	-.15	.15	<.001	154	1.0
	Pair 2	Freshman – Junior	.04	.95	.08	-.11	.19	.51	154	.614
	Pair 3	**Freshman – Senior**	**-.21**	**1.07**	**.09**	**-.38**	**-.04**	**-2.40**	**154**	**.018**
	Pair 4	Sophomore – Junior	.04	.74	.06	-.08	.16	.65	154	.51
	Pair 5	**Sophomore – Senior**	**-.21**	**.90**	**.07**	**-.35**	**-.06**	**-2.87**	**154**	**.005**
	Pair 6	**Junior – Senior**	**-.26**	**.93**	**.08**	**-.39**	**-.10**	**-3.29**	**154**	**.001**

South	Pair 1	**Freshman – Sophomore**	**-.25**	**.91**	**.07**	**-.39**	**-.11**	**-3.44**	**161**	**.001**
	Pair 2	**Freshman – Junior**	**-.22**	**19**	**.08**	**-.38**	**-.07**	**-2.80**	**161**	**.006**
	Pair 3	**Freshman – Senior**	**-.27**	**19**	**.08**	**-.43**	**-.12**	**-3.43**	**161**	**.001**
	Pair 4	Sophomore – Junior	.03	.98	.08	-.13	.18	.32	161	.75
	Pair 5	Sophomore – Senior	-.03	1.02	.08	-.18	.13	-.31	161	.76
	Pair 6	Junior - Senior	-.05	.94	.07	-.20	.10	-.67	161	.50





Anova Simple Effects Analysis – Awards by Semester by Gender

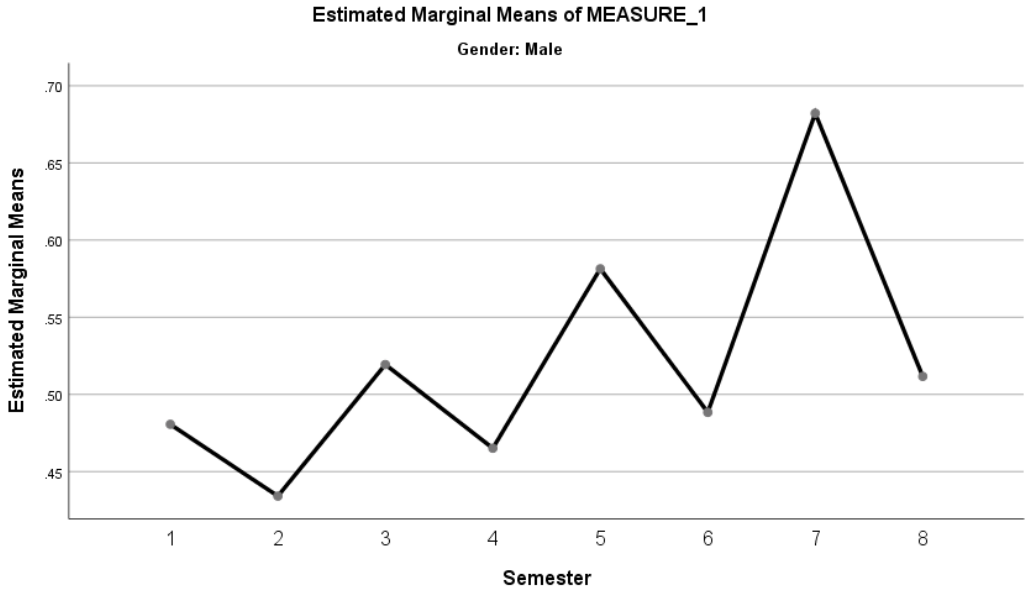
Descriptive Statistics – Gender

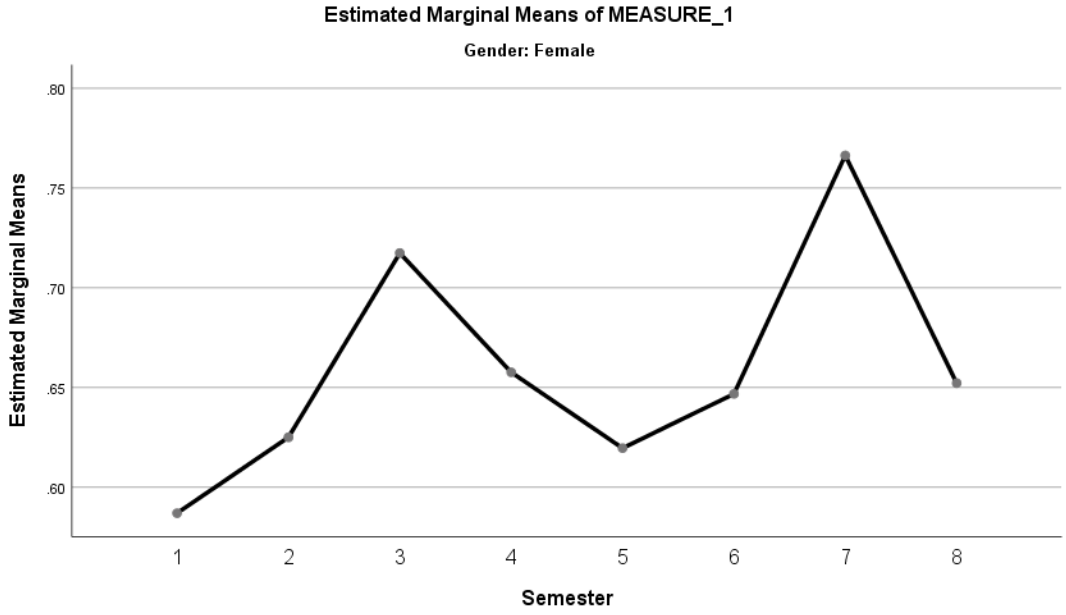
Gender		Mean	SD	N
Male	Freshman Fall	.48	.57	129
	Freshman Spring	.43	.53	129
	Sophomore Fall	.52	.57	129
	Sophomore Spring	.47	.56	129
	Junior Fall	.58	.56	129
	Junior Spring	.49	.52	129
	Senior Fall	.68	.56	129
	Senior Spring	.51	.53	129
Female	Freshman Fall	.59	.59	184
	Freshman Spring	.62	.54	184
	Sophomore Fall	.72	.55	184
	Sophomore Spring	.66	.54	184
	Junior Fall	.62	.55	184
	Junior Spring	.65	.51	184
	Senior Fall	.77	.51	184
	Senior Spring	.65	.51	184

Paired Samples Test

			Paired Differences							
					Std. Error	95% CI				
Gender			Mean	Std. Dev	Mean	Lower	Upper	t	df	*p*
Male	Pair 1	Freshman Fall - Freshman Spring	.08	.53	.05	-.05	.14	.95	128	.35
	Pair 2	Sophomore Fall - Sophomore Spring	.05	.63	.06	-.06	.16	.98	128	.33
	Pair 3	Junior Fall – Junior Spring	.09	.61	.05	-.01	.20	1.75	128	.08
	Pair 4	**Senior Fall – Senior Spring**	**.17**	**.65**	**.06**	**.06**	**.28**	**2.98**	**128**	**.003**
Female	Pair 1	Freshman Fall - Freshman Spring	-.04	.63	.05	-.13	.05	-.82	183	.41
	Pair 2	Sophomore Fall - Sophomore Spring	.06	.50	.04	-.01	.13	1.61	183	.11
	Pair 3	Junior Fall – Junior Spring	-.08	.48	.04	-.10	.04	-.76	183	.45

Pair 4	**Senior Fall - Senior Spring**	**.11**	**.59**	**.04**	**.03**	**.20**	**2.61**	**183**	**.01**





ANOVA Simple Effects Analysis – Location * Gender * SES

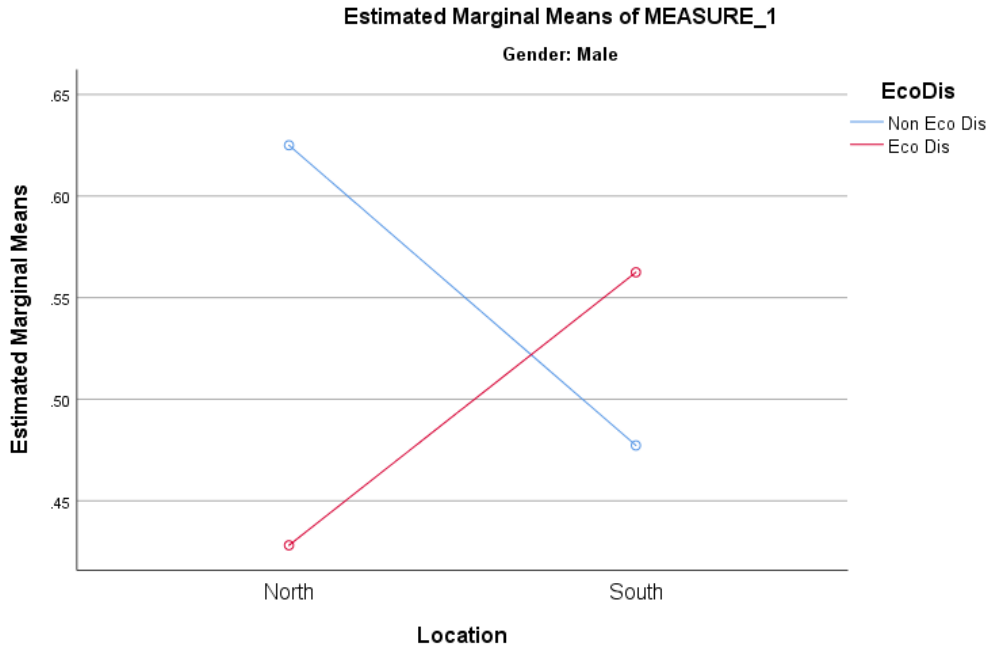
Tests of Within-Subjects Effects

Gender	Source	Sum of Squares	df	Mean Square	F	*p*
Male	Year	2.76	2.86	.94	3.76	.01
	Year * Location	.90	2.86	.31	1.22	.30
	Year * EcoDis	.40	2.86	.14	.54	.65
	Year * Location * EcoDis	.25	2.86	.08	.34	.79
	Error(Year)	91.57	357.67	.26		
	Sem	2.52	1.00	2.52	16.72	>.001
	Sem * Location	.36	1.00	.36	2.41	.12
	Sem * EcoDis	.33	1.00	.33	2.18	.14
	Sem * Location * EcoDis	.006	1.00	.006	.04	.84
	Error(Sem)	18.83	125.0	.15		
	Year * Sem	.43	2.92	.15	.73	.53
	Year * Sem * Location	.39	2.92	.13	.66	.58
	Year * Sem * EcoDis	.55	2.92	.19	.93	.42
	Year * Sem * Location * EcoDis	1.22	2.92	.42	2.05	.11
	Error(Year*Sem)	74.29	364.87	.20		
Female	Year	2.82	2.82	.99	4.31	.006
	Year * Location	1.15	2.82	.41	1.76	.16
		1.15	2.82	.41	1.76	.16
	Year * EcoDis	.41	2.82	.15	.63	.59
	Year * Location * EcoDis	.39	2.82	.14	.59	.61
	Error(Year)	117.55	508.25	.23		
	Sem	.36	1.00	.36	1.95	.17
	Sem * Location	.003	1.00	.003	.02	.90
	Sem * EcoDis	.12	1.00	.12	.66	.42
	Sem * Location * EcoDis	.02	1.00	.02	.10	.75
	Error(Sem)	32.84	180.0	.18		
	Year * Sem	.83	2.92	.28	1.89	.13
	Year * Sem * Location	.82	2.92	.28	1.87	.14
	Year * Sem * EcoDis	.40	2.92	.14	.92	.43

	Year * Sem * Location * EcoDis	.11	2.92	.04	.26	.85
	Error(Year*Sem)	78.99	525.41	.15		

Tests of Between-Subjects Effects

Gender	Source	Sum of Squares	df	Mean Square	F	*p*
Male	Intercept	266.98	1	266.98	290.02	<.001
	Location	.01	1	.01	.01	.91
	EcoDis	.76	1	.76	.83	.37
	Location * EcoDis	**4.85**	**1**	**4.85**	**5.27**	**.023**
	Error	115.07	125	.92		
Female	Intercept	572.75	1	572.75	547.65	<.001
	Location	.39	1	.39	.37	.54
	EcoDis	.01	1	.01	.01	.91
	Location * EcoDis	1.21	1	1.21	1.15	.28
	Error	188.25	180	1.05		



Appendix D: Qualitative Word Cloud – NVivo

Appendix E: Recruitment Letter

UNIVERSITY of DENVER

University of Denver

A Graduate Student from the Morgridge College of Education

Is conducting a Research Study on:

Characteristics of Choctaw STAR Students

In your community.

If you were a Freshman in high school during the academic year of 2014-2015 and were enrolled in the Choctaw Nation's Success Through Academic Recognition (STAR) program, you may qualify for a research study that focuses on your past experiences in school. Eligible students will take part in a single short interview with the researcher, which will take about 15 – 20 minutes. Participants will be placed into a raffle for a $100 Visa gift card.

Principal Investigator: Suzanne Delap, Ed.S., NCSP – School Psychologist and Enrolled Choctaw Member

For more information, call 303-748-8594 or email Suzanne.Delap@du.edu

Appendix F: Email Recruitment Letter

Halito!

My name is Suzanne Delap and I am a graduate student from the Morgridge College of Education at the University of Denver. I am also an enrolled member of Choctaw Nation, and I am writing to invite you to participate in my research study. My study focuses on Choctaw high school students within the Success Through Academic Recognition (STAR) program, to gain insight into your experiences in school

You are eligible for this study because you were enrolled in the STAR program between 9th and 12th grade during the 2014 – 2018 academic school years with Choctaw Nation. You are receiving this invitation through Choctaw Nation, in order to keep your information confidential.

If you decide to participate in this study, you will be asked to take part in a single interview with me, either via telephone or through the Zoom application, which should take roughly 20 minutes of your time. You will also be entered into a raffle for a $100 Visa gift card as compensation for your time.

Finally, this study is completely voluntary. You can choose to participate or not. If you have any questions about the study, please email or contact me at Suzanne.Delap@du.edu or 303-748-8594.

If you would like to participate, please click here, which will take you to a Qualtrics survey with all consent forms and a request for your contact information. I will contact you about scheduling a time for participation as soon as I receive your submittal.

Thank you for your time.

Sincerely,

x Suzanne Delap

Suzanne Delap, EdS, NCSP

Appendix G: IRB Consent Adult

University of Denver

Consent Form for Participation in Research

Title of Research Study: Characteristics of Educational Persistence among Choctaw STAR Students

Researcher(s): Suzanne Delap, EdS, NCSP, University of Denver; Faculty sponsor – Dr. Gloria Miller, PhD, University of Denver.

Study Site: N/A – distance interviews conducted via phone/Zoom

Purpose

You are being asked to participate in a research study. The purpose of this research is to discover the characteristics of Choctaw high school students within the STAR program.

Procedures

If you participate in this research study, you will be invited to participate in a single interview with the PI, Suzanne Delap, conducted via phone or through Zoom. This interview will focus on your experience as a STAR student in high school.

Voluntary Participation

Participating in this research study is completely voluntary. Even if you decide to participate now, you may change your mind and stop at any time. You may choose not to continue with the interview for any reason without penalty or loss of other benefits to which you are entitled.

Risks or Discomforts

Potential risks of participation may include some discomfort regarding memories of high school experiences. These feelings of discomfort are not expected to be significant risks to your wellbeing, but please alert the researcher to any concerns that you may have.

Benefits

Possible benefits of participation include helping the Choctaw Nation improve its programs for high school students. You will also be a part of a project that gives voice to a population that has not been studied in research before.

Incentives to participate

You will be entered into a raffle for a gift card of $100 for participating in this research project, even if you decide to discontinue the interview process.

Confidentiality

The researcher will strive to keep your information safe throughout this study. After the interview, the information will be transcribed into an electronic file, which will be kept on an encrypted USB drive and locked in a file cabinet in the researcher's office. If interviews are recorded over Zoom with the participant's consent, the recording will be immediately transcribed, and then the recording will be deleted. After the interviews conclude, the transcribed files will be kept for a period of 7 years, until they are purged along with any written notes created during the interview process. Your individual identity will be kept private when information is presented or published about this study. However, should any information contained in this study be the subject of a court order or lawful subpoena, the University of Denver might not be able to avoid compliance with

the order or subpoena. The research information may be shared with federal agencies or local committees who are responsible for protecting research participants, including individuals on behalf of Choctaw Nation.

Questions

If you have any questions about this project or your participation, please feel free to ask questions now or contact Suzanne Delap at 303-748-8594 or Suzanne.Delap@du.edu at any time. You may also contact the faculty advisor, Dr. Gloria Miller, at Gloria.miller@du.edu.

If you have any questions or concerns about your research participation or rights as a participant, you may contact the DU Human Research Protections Program by emailing IRBAdmin@du.edu or calling (303) 871-2121 to speak to someone other than the researchers.

Online Survey Information

Your contact information will be submitted via Qualtrics for inclusion in this study. Before you begin, please note that the data you provide may be collected and used by Qualtrics as per its privacy agreement. This research is only for U.S. residents over the age of 18. Please be mindful to respond in private and through a secured Internet connection for your privacy. Your confidentiality will be maintained to the degree permitted by the technology used. Specifically, no guarantees can be made regarding the interception of data sent via the Internet by any third parties.

Options for Participation

Please initial your choice for the options below:

___The researchers may audio/video record or photograph me during this study.

___The researchers may NOT audio/video record or photograph me during this study.

Please take all the time you need to read through this document and decide whether you would like to participate in this research study.

If you decide to participate, your completion of the research procedures indicates your consent. Please keep this form for your records.

Contact Information

Please indicate your preferred method(s) for contact to schedule your interview, if applicable, and to follow up with any questions or concerns:

___ By phone at: _____

___ By email at: _____

___ By mail at: _____

Appendix H: IRB Approval Letters

Choctaw Nation of Oklahoma

Institutional Review Board

OHRP FWA Number: 00001128
OHRP IRB Number: 00004293

One Choctaw Way • Talihina, OK 74571
(918) 567-7000, Ext. 6014

Gary Batton
Chief

Jack Austin, Jr.
Assistant Chief

11/29/2018

Suzanne Delap

RE: Characteristics of Achievement, Engagement, and Persistence among Choctaw STAR Students

CNO IRB
Protocol
Number:
2018-009
Protocol
Approval Date:
11/28/2018

Dates Covered by this Approval: 11/28/2018 through 11/27/2019

Dear Suzanne Delap:

The Choctaw Nation Institutional Review Board (CNO IRB) has reviewed the above referenced research study, and granted approval of the research on 11/28/2018. This study meets the criteria of the Choctaw Nation of Oklahoma, following the guidelines set forth in 45 CFR 46, and the principles of the Belmont Report, for the protection of human research participants. It is the judgment of the CNO IRB that the rights and protection of the individuals who may be asked to participate in this study will be respected; and the proposed research, including the informed consent process, will be conducted in a

manner consistent with the requirements of 45 CFR 46 or 21 CFR 50 & 56 as amended. The research will also be conducted in a manner that insures no more than minimal risk to participants as outlined in the submitted research proposal.

As principal investigator of this protocol, it is your responsibility to insure this study is conducted as approved. Any modifications to the protocol or consent process will require prior approval by the CNO IRB. All research study related records, including copies of signed consent forms, need to be retained in a manner consistent with the intent of the Health Information Portability and Accountability Act (HIPAA), for a minimum of three (3) years following the termination date of the research project.

Approval from the CNO IRB requires that you *promptly* report to the CNO IRB any unanticipated adverse events experienced by participants during the course of this research study, whether or not these events are directly related to the research study protocol. For multi-site protocols, the CNO IRB must be informed of serious adverse events at any and all sites, not only the Choctaw Nation sites.

Failure to promptly report any unanticipated adverse events, or any legal or ethical issues encountered, may jeopardize not only your research protocol, but any and all protocols supported by your sponsoring institution, and active with the Choctaw Nation of Oklahoma Institutional Review Board.

This initial approval granted by the CNO IRB expires on 11/27/2019. In order to maintain this protocol in an active status beyond that date, you will be required to provide the CNO IRB with a

Request for Continuing Review, which will include a Progress Report summarizing research study results for the year. You are ultimately responsible, as the Principal Investigator, to submit a Request for Continuing Review, or Protocol Closure (if the research project is complete), no later than the 15th of the month of expiration.

The CNO IRB reserves the right for editorial review and comment on any material to be published, or presentations given to individuals not affiliated with the Choctaw Nation of Oklahoma. The CNO IRB should be notified well in advance of any intent to publish material related to this research. It is your responsibility to allow the CNO IRB at least 15 business days for this review, and approval must be obtained prior to final submission of the material for publication or presentation.

As Principal Investigator, it is your responsibility to insure that you and your institution are covered by professional liability insurance appropriate to this research study's activities. In the event your sponsoring organization's IRB takes any action to modify or suspend this research protocol, the CNO IRB must be notified in writing (e-mail is acceptable) within 10 business days for modifications or 3 business days for suspension. Notification must include the action taken and the rationale for the action.

If you have questions concerning these procedures or need any additional assistance from the CNO IRB, please contact me at 580-286-4724 or dfwharton@cnhsa.com; or Carey Fuller, CNO IRB Administrative Director at 918-567-7000 Ext. 6014 or cmfuller@cnhsa.com.

Sincerely,

Sylvester Moore, CNO IRB Co-Chair

Choctaw Nation of Oklahoma Institutional Review Board

Protecting Our People and Our Heritage

Sylvester Moore	**David Wharton**	**Teresa Jackson**
Community Co-Chair	*Scientific Co-Chair*	*Federal-Wide Assurance Institutional Officer*

UNIVERSITY of DENVER
RESEARCH & SPONSORED PROGRAMS

DATE:	January 14, 2019
TO:	Suzanne Delap, PhD Candidate
FROM:	University of Denver (DU) IRB
PROJECT TITLE:	[1362183-1] Characteristics of Educational Achievement, Engagement, and Persistence among Choctaw STAR Students
SUBMISSION TYPE:	New Project
APPROVAL DATE	January 14, 2019
NEXT REPORT DUE:	January 13, 2021
RISK LEVEL:	Minimal Risk
REVIEW PERIOD:	2 years
REVIEW TYPE:	Expedited Review
ACTION:	**APPROVED**
REVIEW CATEGORY:	Expedited category # *6 & 7* ***Category 6:*** *Collection of data from voice, video, digital, or image recordings made for research purposes.* ***Category 7:*** *Research on group characteristics or behavior (including, but Not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.*

Thank you for your submission of the **New Project** materials for this project. The University of Denver IRB has granted **FULL APPROVAL** for your submission. This approval is based on an appropriate risk/ benefit ratio and a project design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission. The IRB determined that the criteria for IRB approval of research, per 45 CFR 46.111, has been met.

This submission has received an Expedited Review based on applicable federal regulations. Please note that the following documents were included in the review and approval of this study:

- Application Form - S Delap IRB Expedited Review form signed.docx (UPDATED: 12/24/2018)
- Application Form - Interview Questions and Email Recruitment Letter.docx (UPDATED: 12/16/2018)
- Application Form - APPENDIX I.docx (UPDATED: 12/16/2018)
- Application Form - APPENDIX N.docx (UPDATED: 12/16/2018)
- Consent Waiver - Appendix A.docx (UPDATED: 12/16/2018)
- DU - IRB Application Form - DU - IRB Application Form (UPDATED: 12/18/2018)
- Letter - Choctaw Nation of OK IRB approval.pdf (UPDATED: 12/16/2018)
- Questionnaire/Survey - Qualtrics consent and survey.docx (UPDATED: 12/16/2018)

Please remember that informed consent is a process beginning with a description of the project and assurance of participant understanding. Informed consent must continue throughout the project via a dialogue between the researcher and research participant.

Please note that any revision to previously approved materials must be approved by the DU IRB prior to initiation. Please use the appropriate revision forms for this procedure.

All UNANTICIPATED PROBLEMS involving risks to subjects or others (UPIRSO's) and UNEXPECTED adverse events must be reported promptly to the IRB. Please use the appropriate reporting forms for this procedure. All FDA and sponsor reporting requirements should also be followed.

All NON-COMPLIANCE issues or COMPLAINTS regarding this project must be reported promptly to this office.

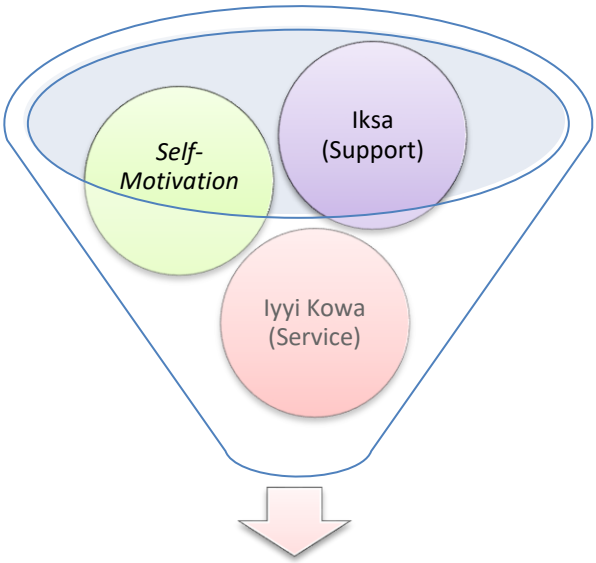
This project has been determined to be a Minimal Risk project.

Please note that all research records must be retained in a secure location for a minimum of three years after the completion of the project.

If you have any questions, please contact the DU Human Research Protection Program at (303) 871-2121 or IRBAdmin@du.edu. Please include your project title and IRBNet number in all correspondence with the IRB.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within University of Denver (DU) IRB's records.

Appendix I: Sources of Strength



Achievement, Engagement, and
Persistence for Choctaw STAR Students